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Relationship of high school training in vocational agriculture to subsequent establishment in farming and participation in organized groups

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RELATIONSHIP OF HIGH SCHOOL TRAINING IN VOCATIONAL AGRICULTURE TO SUBSEQUENT ESTABLISHMENT IN FARMING AND PARTICIPATION IN ORGANIZED GROUPS

by

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INTRODUCTION

Vocational education in agriculture originated with the passage of the Smith-Hughes Act (55). This act promoted by Senators Smith and Hughes, both of Georgia, was approved as Public Law 347, by the sixty-fourth United States Congress on February 23, 1917. The act provided for a cooperative program of vocational education in agriculture. The program was to be a cooperative venture between the federal government and the states in the promotion of vocational education of less than college grade. This promotion provides for an annual appropriation of federal funds for allotment to the states for agricultural education, distributive education, home economics education, and trade and industrial education. The fundamental idea on which the program is based is that vocational education is in the national interest and is essential to the national welfare. Federal funds are made available to stimulate and assist the states in making adequate provisions for such training. Since the passage of the act, there has been a continued growth in both the number of schools offering vocational agriculture and in the number of students enrolled.

Supplementary legislation enacted since 1917 has furthered the provisions of the Smith-Hughes Act. The purposes of this supplementary legislation were to further the development of the program and of extending the benefits of vocational education in agriculture to the insular and territorial possessions. The George-Barden Act (56) designated as Vocational Bill S. 619, became Public Law 586 when

passed by the 79th United States Congress and signed by the President on August 1, 1946. This act was a composite of the previous George-Reed, George-Ellzey, and George-Dean Acts which had previously bolstered the Smith-Hughes Act.

These acts require each state to prepare and submit a plan that outlines the ways and means of using the money it is allotted. It also requires a report of how the program is operated. This plan, known as the state plan, serves as an agreement between the federal government and the state. Payment of federal funds to states having approved plans must be certified by the Office of Education. The acts stipulate that for each dollar of federal money used in a state, a dollar of state or local money must be expended for the same purpose.

From the very beginning, the principal and fundamental purpose of vocational agriculture has been to train present and prospective farmers for proficiency in farming. Major objectives (58, p. 4) of vocational agriculture are to develop effective ability to: (1) make a beginning and advance in farming, (2) product farm commodities efficiently, (3) market farm products advantageously, (4) conserve soil and other natural resources, (5) manage a farm business effectively, (6) maintain a favorable environment and (7) participate in rural leadership activities. It is stated in Phipps and Cook (44, p. 34) that educators in general recognize the importance of offering a program dedicated to these objectives. It is also indicated that the changes and advancements characteristic of American agriculture during recent years increase the importance of such a program.

Departments of vocational agriculture are responsible for attainment of the objectives which have been stated. Vocational agriculture instructors provide instruction for in-school youths preparing to farm, out-of-school young men engaged in farming, and adult farmers who are fully established as farm operators and workers. There were 805,322 enrollees in 9,611 departments of vocational agriculture operating under the direction of the national program during the fiscal year 1960-1961, as compared with 785,599 enrollees in 10,116 departments of vocational agriculture during the fiscal year 1955-1956 (57). Iowa's number of vocational agriculture departments was 283 during the fiscal year 1960-1961. During the 1960-1961 fiscal year there were 462,756 students enrolled in all-day classes, 73,406 out-of-school young men enrolled in young farmer classes, and 267,160 adult farmers enrolled in adult farmer classes in the national program. In the state of Iowa the vocational agriculture enrollment for 1960-1961 was as follows: all-day class students 10,069; young farmer class members, 1,326; and adult evening school members, 13,236; a total enrollment of 24,631.

Vocational agriculture for the all-day classes includes classroom and shop instruction, supervised farming programs, and Future Farmer of America activities. The supervised farming programs furnish the problems around which the classroom activities are centered. The broad areas of instruction in vocational agriculture are animal husbandry, farm crops, farm management and farm mechanics. Broad areas of the supervised farming programs are productive projects, improvement projects, and

supplementary farm practices. A productive project is a farming business venture for experience and profit and usually involves the raising of livestock or production of a crop. An improvement project is designed to increase the efficiency of the home farm business, to improve the farm home and its environment, or to increase the real estate value of the home farm. The supplementary farm practices are approved practices of short duration and are in addition to any work planned as productive or improvement practices.

The Future Farmers of America organization is operated as an integral part of the vocational agriculture program. It is usually conducted by the vocational agriculture students with the local instructor serving as advisor. Activities of the organization are designed to assist the members in becoming established in farming, to develop leadership abilities, to improve scholarship, to provide wholesome recreational opportunities, to foster a spirit of cooperation and community service, and to furnish experience in the earning, saving and investing of money.

Because of the extensive training provided in vocational agriculture in the areas of classroom instruction, farming program development, and leadership training through the Future Farmers of America, it is felt by the instructors and other leaders in the field that high school graduates who have had this training in high school should become established in farming on a more permanent basis and participate more in the activities of other organizations after they graduate from high school than students who have had no vocational agriculture instruction while in high school.

A review of the literature revealed that some investigation had been made of the influence of vocational agriculture on the participation in other organizations. However, no attempt had been made to determine the relationship of high school vocational agriculture, establishment in farming, and participation in organized groups. This was the major factor in motivating the writer to make this investigation.

This study was made cooperatively with other graduate students in Agricultural Education at Iowa State University. The purpose of the entire study was to determine the influence of high school vocational agriculture on the establishment of graduates in farming. The investigators who cooperated in the project and the titles of their studies are as follows:

William F. Bear. Relation of high school vocational agriculture to mechanical farm jobs performed by graduates. Unpublished M. S. Thesis. Iowa State University Library. Ames, Iowa. 1959.

Duane L. Blake. Influence of high school vocational agriculture on rate of establishment of graduates in farming. Unpublished M. S. Thesis. Iowa State University Library. Ames, Iowa. 1956.

Edward E. Dakan. Influence of high school vocational agriculture on production and management practices. Unpublished M. S. Thesis. Iowa State University Library. Ames, Iowa. 1956.

Earl M. Henderson. Influence of high school vocational agriculture on the establishment of graduates in farming. Unpublished M. S. Thesis. Iowa State University Library. Ames, Iowa. 1956.

Michael J. Kasperbauer. Relationship of high school vocational

agriculture and military service to establishment of graduates in farming. Unpublished M. S. Thesis. Iowa State University Library. Ames, Iowa. 1957.

Duane M. Nielsen. Relationship of high school vocational agriculture and size of home farm to establishment of graduates in farming. Unpublished Ph. D. Thesis. Iowa State University Library. Ames, Iowa. 1958.

REVIEW OF LITERATURE

Numerous studies of former high school vocational agriculture students have been made. Literature related to high school training in vocational agriculture and its relationship to the subsequent establishment in farming and participation in organized groups is limited. Studies have been made concerning establishment in farming and leadership activities after graduation from high school. However, no known comprehensive investigation of the relation of high school training in vocational agriculture to subsequent establishment in farming and participation in organized groups has been made. Selected literature related to the influence of high school vocational agriculture and leadership activities of students who had had vocational agriculture have been reviewed.

Influence of High School Vocational Agriculture

In an Iowa study completed by Hoopes (28) in 1937, it was found that out of 100 former students who had at least one year of vocational agriculture, 75 were in farming or related occupations. Of the students whose fathers were owner-operators, 74 percent were farming, whereas only 44.8 percent of those whose fathers were tenant-operators were farming. The economic status of the father was a factor in helping the boy become established in farming. Students of vocational agriculture did not enter new occupations closely related to farming to any degree.

Deyoe (17) made a study of Michigan farm youth in 1939 and concluded that the former students of agriculture most likely to be farming were those who took two years or more of vocational agriculture and had one or more productive projects.

Houston (29) studied the way that farm boys became established in farming. He compared boys who graduated during an eight-year period from two high schools in Iowa offering vocational agriculture with those who had graduated from two high schools which did not offer vocational agriculture.

His investigation disclosed that the farm graduates of high schools offering vocational agriculture entered farming at a higher status than farm graduates of high schools not offering such work. It was also found that farm graduates of high schools not offering vocational agriculture who were from farms of 200 acres or more in size became established in occupations not related to agriculture in significantly higher numbers than farm graduates of high schools offering vocational agriculture.

In a study of the influence of high school vocational agriculture upon production and management practices used by graduates, Dakan (15) found that of the 24 practices tested, vocational agriculture graduates had higher scores for 23 practices. Only for the practice of applying commercial fertilizer according to soil test recommendations was the mean score higher for the control group.

He found five practices for which the differences were significant at the one percent level. They were as follows: separate sows from

breeding herd at least three days before farrowing; separate the castration, the vaccination, and weaning by at least two weeks; use farm records in planning and managing livestock program; and use farm records in making use of labor, machinery and power. Because the mean scores for these practices were, in all cases, higher for the vocational agriculture group, the differences which existed may be considered to be a result of vocational agriculture training.

At the five percent level, significant differences were found for the following four practices: castrate boar pigs before eight weeks; plow down a green manure crop; construct grass waterways; and use a rotation containing a legume. It was assumed that vocational agriculture training was the influencing factor.

Dakan also studied the extent to which farm records were being kept. He used a scoring system based on the assumption that certain types of information were more indicative of the usefulness of records, and calculated the interactions with practices by the use of analyses of variance. Thirty-seven graduates with high school vocational agriculture "always" kept the type of records for which the highest score was awarded, as compared with only 19 members of the control group who gave the same responses.

Henderson(26) found in a study to determine the influence of high school vocational agriculture on the establishment of graduates in farming that a significantly larger number of vocational agriculture graduates were operating large farms with more crop acres, had more acres of corn, more acres of oats, more acres of legumes, for hay, more

acres of rotation pasture, sold more hogs for slaughter, had higher averages of pigs weaned per litter, more beef cows on January 1, 1955, sold more fat cattle, and had higher total gross products for their farm operations than had the nonvocational agriculture graduates.

Henderson also found that compared with nonvocational agriculture graduates, the vocational agriculture graduates had: more total acres in the home farm at time of graduation; more crop acres; more land farmed independently at time of graduation; more veterans attending on-farm training classes; more working with or without wages plus a share of the farm profits; and more years of farm experience since graduation. He also reported that a total of 142 vocational agriculture graduates were classified as operators and 18 were nonoperators (working on farms with or without wages). Only 126 nonvocational agriculture graduates were operators, while 34 were classified as nonoperators.

The Central Regional Conference on Research in Agricultural Education (13) devoted a portion of their cooperative study of institutional on-farm training in the central region to the farm experience of trainees.

Over 63 percent of the veterans in each state had spent ten or more years on the farm. Nearly 85 percent of the veterans in Minnesota and North Dakota had ten or more years of previous farm experience.

Less than five percent of the veterans in each state had no farm experience. Approximately as many veterans in each state had from seven to nine years of farm experience as had from one to six years.

It was indicated in the summary of the study that the program of on-farm training was effective in meeting the objectives for which it was created. It was found that 90 percent of the veterans were better established in farming. Nearly 95 percent of them had used new and improved practices.

This review of studies furnished a picture of the present status of the problem, the chief features of which are hesitancy for making monetary assertations and the rate of establishment in farming. Most of the studies have dealt with production and management practices followed on the farm.

As evidenced in most of the studies, the high school graduates who had been enrolled in veterans on-farm training were either better established in farming or were using a larger number of improved production and management practices than were those who had not been enrolled in these programs.

An investigation was conducted by Aldinger (2) in 1954, to determine whether there were any differences in farming statuses of male graduates from high schools offering vocational agriculture and male graduates from high schools not offering vocational agriculture. The study involved graduates from ten paired high schools located in central Iowa. All men were graduated from high school during the 1937 through 1947 period of years. The investigator reported that inspection indicated some difference in farming status between the two groups in favor of the vocational schools. However, this difference was not statistically significant.

Agan (1) investigated the swine management practices used by participants in the on-farm training program for veterans. The veterans were asked to check the improved practices that applied to their farming situations and the degree to which the practices were being used in their farming programs. It was found that veterans enrolled in institutional on-farm training were using more improved practices in swine management than were those veterans who had not received this training.

A comparison was made of the practices used by those who had been enrolled in adult and young farmer vocational agriculture and by those who had not been enrolled in these classes. There was a significant difference in favor of those who had been members of the adult and young farmer classes. No significant differences were found in the swine management practices used by veterans who had taken vocational agriculture in high school and those used by veterans who had not received such training.

In a study similar to Agan's, and using the same sample, Donahoo (19) investigated the soil management practices used by 188 participants in the institutional on-farm training program for veterans. Using the mean score made on these schedules as a criterion, an analysis of variance was made in which the mean scores of young men in training were compared with the mean scores of those in the control group. It was found that there was a highly significant difference between the two groups.

Satisfactory evidence was found in the study to indicate that

veterans in the farm training classes were putting into effect more improved management practices than were similar veterans not enrolled in the classes.

McKimpson (36) made a study to determine the effectiveness of institutional on-farm training in terms of improved dairy and beef cattle management practices. He used the same sample which was used by Donahoo, Agan and Gruenwold.

The use of 22 dairy and beef cattle management practices was tested by an analysis of variance. No significant differences were found between veterans in training and veterans who were not enrolled in the on-farm training program.

In a study similar to those conducted by Agan, Donahoo and McKimpson, Gruenwold (25) used the same sample to measure the cropping practices used by veterans enrolled in on-farm training programs. He found that eight of the 22 practices involved significant differences in the use made of the practices by members of the two groups. The differences were in favor of the veterans who were enrolled in the on-farm training program. Vocational agriculture training in high school had no effect on the number of practices used.

The Agricultural Education Division of the American Vocational Association (3) summarized a nationwide study of the institutional on-farm training program. The report included 5,274 self-employed veterans in 42 states. Results of the study indicated that the veterans in training under the program had made the following progress: (1) a six percent increase in farm size of veterans in 1950 over 1949 in all regions; (2)

rates of production for nearly all major meat animals on veterans' farms increased considerably from 1949 to 1950; (3) there was an indicated increase in net worth of farm veterans throughout the United States from 1949 to 1950; (4) the average increase for all regions was approximately $1,200.

In 1956, Ball (5) studied the effectiveness of farm mechanics instruction in departments of vocational agriculture as indicated by the extent to which selected farm mechanics activities had been performed on farms of high school graduates who were enrolled in veterans on-farm training programs.

He found that a greater proportion of the vocational agriculture than nonvocational agriculture graduates reported having oxy-acetylene welders, machine vises, woodworking vises and power grinders. He also found former vocational agriculture students to be performing a proportionately greater number of recommended farm mechanics activities in certain areas than former nonvocational agriculture graduates.

Blake (10), in 1956, made a study of the influence of high school vocational agriculture on the rate of establishment of graduates in farming. He found highly significant differences in rate of establishment in farming in favor of the vocational agriculture graduates. He determined that each of the vocational agriculture graduates had received a $532 increment on his total gross product for each additional year that he had farmed, as compared with a $357 average increment for each of the nonvocational agriculture graduates. He also reported that

142 of the 160 vocational agriculture graduates were farm operators in 1955, as compared with 126 of the 160 nonvocational agriculture graduates. The remainder of the graduates were nonoperators. He also reported that the mean total gross product of the vocational agriculture graduates exceeded that of the nonvocational agriculture graduates by $1506.75.

A study concerning 415 junior and senior students of vocational agriculture enrolled in high school in Minnesota and Wisconsin was made in 1952 by Bjoraker (11). He stated that it appeared that the nature of the responsibility of the boy on the larger home farm made the major contribution to his desire to remain in farming. Where a student had greater managerial responsibilities and greater opportunities for doing "a man's work", the level of desire to remain on the farm was higher.

In a 1933 University of Nebraska study made by Decker (16), it was stated that practices reported most valuable for the attainment of objectives were concerned with developing pride in vocational agriculture; improving quality of work in agriculture; creating more interest in the intelligent choice of farming methods; creating and nurturing a love of country life; promoting thrift and encouraging investment in livestock; teaching cooperation; establishing confidence of the boy in himself and his work; stimulating high scholastic standards among agriculture boys; and training for rural leadership. In the final analysis, according to the author, the Future Farmers of America organization must be regarded as a teaching device.

Dobervich (18) investigated 157 young farm operators who were farming in Iowa. The young farm operators listed in order of importance the

following factors which aided them in becoming established in farming: (1) experience on the home farm, (2) assistance from parents and relatives, (3) agricultural education, (4) advice from parents, (5) general knowledge and education, (6) own reading and studying, and (7) experience as a hired hand.

Erickson (22) made a study of the factors affecting establishment in farming of former high school graduates of North Dakota high schools. The study concerned high school graduates who had had vocational agriculture training. In general for the group studied, it was found that only farmers' sons entered farming, that military service is an inhibiting factor that tends to prevent entrance into farming and that an increased number of semesters of training in vocational agriculture was associated with choice of farming occupations. As the size of farm increased, the likelihood of the respondent entering farming increased.

In 1956, Fulton (23) made a study of the effect of high school vocational agriculture training on achievement in the introductory farm mechanics courses at Iowa State University. He found that the students who had been enrolled in high school vocational agriculture tended to excel the students who had not received such training.

A comparison of 106 graduates of a high school which offered vocational agriculture with 105 graduates of a high school which did not offer such a curriculum was made by Herman (27) during the year of 1957. He reported that the vocational agriculture graduates received somewhat more guidance, were more frequently engaged in farming, rented larger farms, attended an agricultural college in larger numbers and in general

were slightly more satisfied with their present occupations. Both of the high schools that were used in this study were located in southeastern Iowa.

Kasperbauer (32), in 1957, made a study of the relationship of high school vocational agriculture and military service to the establishment of graduates in farming. He reduced the sample studied by Henderson, Dakan and Blake in order to have equal numbers of veterans in each group. He concluded that vocational agriculture graduates had significantly higher mean total gross products and were better established in farming than were graduates of nonvocational agriculture high schools. He also found that veteran status did not have a significant effect on mean total gross products.

In a study regarding establishment of farming of former students of vocational agriculture in central Illinois, Nicol (42) found that prior to establishment as either tenant or owner, young men were at home with incomes from one or more productive project enterprises or were in partnership in the farm business at home. He also found that in the case of owners, the young men themselves had saved an average of $1,004 prior to establishment. Their parents gave them an average of $813 in cash or in livestock and equipment. The young men borrowed $674 for expenses other than land and in 61 of 69 cases obtained loans or gave mortgages averaging $7,170 for land. In eight cases, parents or relatives gave the young men farm land valued at an average of $17,850. For the tenants studied, it was found that the young men themselves had saved an average of $786. Their parents gave them $472 cash or live-

stock and equipment. The young men borrowed $469 at the time of establishment for livestock and equipment.

Nielsen (43), in 1958, reduced the sample studied by Henderson, Dakan and Blake to investigate the relationship of high school vocational agriculture and size of home farm to establishment of graduates in farming. He concluded that farm operators who lived on larger home farms when graduated from high school operated larger farms with more crop acres and had higher crop total gross products from their farms than high school graduates who lived on smaller home farms when graduated.

In 1956, Stevenson (51) studied the influence of high school vocational agriculture on farm mechanics practices used by students previous to enrolling at Iowa State University. He found that the vocational agriculture graduates did a significantly higher number of farm mechanics jobs on the home farm. A greater proportionate number of the nonvocational agriculture graduates had hired their farm mechanics jobs done than had the vocational agriculture graduates. Stevenson also concluded that considerable relationship existed between the size of the parents' farm and the number of farm mechanics jobs done. More farm mechanics jobs were completed by graduates with heated shops than by those without heated shops.

Bear (7) conducted a study to determine the relation between the establishment of farm shops and the farm mechanics jobs used by high school graduates with type of high school training, farm ownership status, size of home farm, time of high school graduation and the gross product

of the graduates' farms in 1955. He found that 97 percent of the vocational agriculture and 92 percent of the nonvocational agriculture graduates had shops. Vocational agriculture graduates, on an average, owned 6.1 tools per individual, whereas nonvocational agriculture graduates owned 5.8 tools per individual. He found no significant differences between vocational agriculture and nonvocational agriculture graduates in 40 of the 42 farm mechanics jobs performed. The vocational agriculture graduates completed a higher average number of the farm mechanics jobs than did the nonvocational agriculture graduates in all the total gross product groups except the $5,001 to $7,000 and $12,001 to $18,900 groups. Data from Bear's study did not indicate that farm mechanics instruction provided in high school vocational agriculture greatly influenced the farm mechanics practices used by graduates.

In 1951, Thomas (53) made a study of the factors related to the success and failure of farm operators in acquiring farm ownership in Milford Township, Story County, Iowa. He concluded that operators who had mastered more technical agricultural knowledge were benefitted in that they were better able to select current practices of value to them and were able to grasp changes at a faster rate.

Wright (62) reviewed 106 separate investigations of occupational distribution, entrance into farming and opportunities for farming of former students of vocational agriculture. He reported that larger proportions of students who entered farming came from larger or medium size home farms than came from small home farms. He indicated that boys

who came from exceptionally large home farms were no more likely to enter farming than boys from medium size or large farms.

Influence of Participation in Organized Activities

Brown (12), in his study of former Chapter and State Farmers in the Iowa association of Future Farmers of America, found that former State Farmers had significantly more leadership participation in business and industry, total occupations, political, school, community service, religious and recreational activities than the Chapter Farmers who were included in the study. He also found that the former State Farmers excelled the Chapter Farmers significantly in the following: (1) larger home farm; (2) more years vocational agriculture; (3) more years Future Farmer membership; (4) larger percentage attended college; (5) larger percentage of college students enrolled in agricultural curriculum; (6) higher value placed on Future Farmer and vocational agriculture experiences for personal, family and community living.

In 1961, Newton (41) indicated in his study of farm-reared male graduates of the Newton High School that when high school characteristics were studied, graduates supervising workers in their present occupations seemed to have participated to a greater extent in high school activities.

At the University of Wisconsin in 1961, Pumper (46) conducted a study of high school background and student success in the college of

agriculture. He reported that Alpha Zeta membership was attained by 5.1 percent of the nonagriculture students as compared with 10.9 percent of the vocational agriculture students. Ten of eleven students elected to Phi Kappa Phi were vocational agriculture students when they attended high school.

In 1955, Rogers (48) found that the young adult age was the low point in participation in formal organizations. He gave as reasons for this low participation: service in the armed forces, competing family obligations, lack of acceptance by the community, occupational interference, mobility and migration, and others. His study was concerned more with participation in governmental affairs than participation in farm organizations, but he found that lower participation in formal organizations was significantly related to lower annual income, young children at home stage of the family cycle, living in the country rather than in town, and temporary residence in the community.

Thompson (54) was interested in determining occupational status, establishment in farming, residence, college training, and leadership activities of the 50 Brookings High School graduates who received the South Dakota State Farmer Degree during the 20-year period from 1930 to 1949. Two-thirds of the men studied attended an agricultural college, presumably because South Dakota State University was readily available, as it is located in Brookings. The war and the G. I. Bill of Rights gave many veterans the privilege of attending college. This study revealed that only 16.7 percent had left the agricultural field;

thus 83.3 percent were farming, attending an agricultural college, or engaged in related occupations.

The study showed that of the 54.8 percent who were engaged in farming, 30.5 percent were owner-operators, 26 percent were partners, 34.8 percent were tenants and only 2 percent were farm laborers. The high percentage of partnerships and the low percentage of farm laborers indicated that the supervised farming program established while in high school carried most of the group past the status of farm laborer into the more desired status of partnership, tenant or owner-operator. The 21 men who were farming as tenants, owner-operators or in partnership averaged 280 acres of farm land per man. The average amount of land owned by these 21 men was over 100 acres each. The average number of heads of livestock owned by the 22 men who had a livestock program was approximately 15 beef cattle, 4 dairy cattle, 15 ewes, 103 hens, and 14 hogs (largely brood sows), which was interpreted by the author to indicate an excellent establishment in farming from the livestock viewpoint.

The 50 men included in the study averaged active membership in 2.5 organizations per man, and leadership in these organizations averaged one office per man.

Archer (4), Crawford (14), Miller (37) and Studt (52) conducted a series of studied in 1954 and 1955 related to the influence of high school vocational agriculture on the practices followed by the graduates and their participation in organized groups. There were 240 high

school graduates in the sample; 120 of them had completed three or more years of high school vocational agriculture and 120 were graduates of high schools not offering vocational agriculture.

A comparison of the two groups with respect to their participation and leadership responsibilities in organized groups was made by Archer (4). He found significant differences at the one percent level in favor of the vocational agriculture graduates when comparisons were made on the basis of overall participation in the organized activities included in the study.

In the study made by Archer (4), 27 organizations and organized group activities commonly found in rural communities in central Iowa were included. The 27 organizations and organized group activities included in the study were classified into the following four groups:

1. Public school agricultural groups, agricultural extension activities and farm organizations.

2. School, community, general services, fraternal and veterans' organized groups.

3. Recreational and miscellaneous organized groups.

4. Church groups.

A total participation score, a total membership score, and a total leadership score were obtained for each of the graduates in each of the organized activities included among the four groups of organizations.

When the two groups of farmers were compared on the basis of participation in public school agricultural groups, agricultural extension activities, and farm organizations, it was found that: (1) The graduates of the vocational agriculture schools participated in the agricultural group of organizations to a greater extent than did the graduates of the nonvocational agriculture schools. The difference was significant at the one percent level. (2) The graduates of the vocational agriculture schools held membership status in the agricultural group of organizations to a greater extent than did the graduates of the nonvocational agriculture schools. (3) Although the vocational agriculture graduates had a higher mean score, the difference in extent of leadership responsibilities in the agricultural group of organizations was not significant.

When the two groups of farmers were compared on the basis of participation in school, community, general service, fraternal, and veterans' organized groups, it was found that: (1) The graduates of the nonvocational agriculture schools participated in the general community group of organizations to a greater extent than did the graduates of the vocational agriculture schools. The difference was significant at the five percent level. (2) No significant difference existed in the extent to which graduates in the two groups held

membership status in the general community group of organizations. (3) Although the graduates of the nonvocational agriculture schools had a higher mean score, the difference in the extent of leadership responsibilities held in the general community group of organizations was not significant.

When the two groups of farmers were compared on the basis of participation in recreational and miscellaneous organized groups, it was found that: (1) The vocational agriculture graduates had a higher mean score, but the difference in the extent to which the two groups of graduates participated in the recreational and miscellaneous organized groups was not significant. (2) Although the vocational agriculture graduates had a higher mean score, the difference in the extent to which the two groups held membership status in the recreational and miscellaneous organized groups was not significant. (3) The two groups of graduates did not differ with respect to the extent of leadership responsibilities held in recreational and miscellaneous organized groups.

When the two groups of farmers were compared on the basis of participation in church groups, it was found that: (1) The vocational agriculture graduates had a higher mean score, but the difference in the extent to which the two groups of graduates participated in church

groups was not significant.

When the two groups of farmers were compared on the basis of overall participation in all of the 27 organized activities included in the four groups of organizations, the vocational agriculture graduates were found to have participated in these organized activities to a greater extent than did the nonvocational agriculture graduates. The difference was significant at the one percent level.

Nelson (40) investigated what the American Farmers who had received their degree through the South Dakota Association of the Future Farmers of America were doing. The question of leadership furnished by this group was also studied. Fifteen of the sixteen who responded were in agricultural work, and ten were full-time farmers. Fourteen were full-time or part-time farmers or were managing land operated by someone else.

In reply to a question relative to the influence or help received from vocational agriculture in selecting and entering an occupation, the response was generous with comments such as: broadened view, created interest, learned by actual case situations, learned to plan ahead, and assisted in getting employment. The supervised farming programs carried on while attending and also after graduation from high school moved many of these boys directly into farming as partners. The holdings in livestock and other agricultural goods acquired while in their teens seemed to help these students shorten or bypass a period

as a laborer while accumulating enough capital to start farming.

Progress toward owner-operator was in evidence, although only five reported owning land. The average ownership was 25.8 beef cattle, 11.2 dairy cattle, 67.3 swine, 56.8 sheep, 220.0 chickens, and 2.5 horses. Considering the comparatively short time since many of these men were high school boys, the progress in livestock ownership was significant. Only one of the 16 respondents failed to show at least two memberships in organizations, and all except two had held one or more offices.

In a study of West Virginia State and American Future Farmers, Smith (49) discovered that those who had worked to attain the highest goals in FFA had continued to work toward a progressive enterprise. Land ownership had been a big obstacle in becoming established. Many had completed that phase and were becoming more efficient in production, consumption and marketing. He found that the majority of State and American Farmers had remained in West Virginia. Those who were working at non-farm occupations admitted their desire to farm, but financial and other obligations prolonged the period of non-ownership.

Smith stated that leadership through FFA had been a great inspiration. Many had gone into activities associated with rural living, while some had been inspired to associate themselves with non-farm activities. It was evident that the American Farmers had become established more quickly than the State Farmers. He advised

that more State Farmers be encouraged to meet the minimum requirements for the American Farmer degree.

In Alabama, Morris (39) compared farmers who had studied vocational agriculture with those who had not. He found that the vocational agriculture group averaged 3.1 years tenure in high school, exactly the same as the nonvocational agriculture group. The vocational group ranked a little higher in grades, 77.4, as compared with 76.3 for the nonvocational group. However, in the range for years of farm experience since leaving school, the vocational agriculture group averaged 5.3 years, whereas the nonvocational group averaged 6.1 years. The vocational group averaged 70.7 acres cultivated as opposed to 72.8 acres for the others. Forty percent of the vocational group operated as owners, while 30 percent of the nonvocational group fell in this classification. The summary for degree of success for the vocational group averaged 67, while the nonvocational group fell to 53.4. Morris felt that the groups were equated as closely as possible on certain important factors, and his results showed that 20 percent of the farmers in the vocational group rated excellent, 60 percent rated good and 20 percent rated fair; while in the nonvocational group 50 percent rated good, 20 percent rated fair and 30 percent rated poor.

In a study about the leadership activities and participation in community organizations on the part of American Farmers in Pennsylvania from 1940 to 1952, Drew (21) found that only 2.5 percent of the men studied were engaged in occupations not in any way related to agriculture. His sample included 71 full- or part-time farmers, of which 18

were full owners, 6 were owner-renters, 36 were in partnerships of one type or another and 11 were renters. General dairy farming was the major type of farming followed. The 80 respondents to his questionnaire belonged to an average of 10.9 organizations per man; 6.4 were farm organizations and 4.5 were non-farm. Co-operative farm organizations ranked highest in total number of memberships, while Church, a non-farm organization, held the second highest number.

These 80 men held 236 major positions of leadership with a mean average of 3 positions per man of which 1.51 were in farm organizations and 1.4 were in non-farm organizations. Ninety percent of the men belonged to cooperatives for a total of 223 memberships in this category. More leadership positions were held by the men in farm organizations than in non-farm organizations.

Most of the 80 individuals held leadership positions in both farm and non-farm organizations. In the two highest ranking types of organizations, Occupational Improvement and Church, approximately four-fifths of the total positions were attributed to different individuals. This indicated a relatively even distribution of leadership among the 80 men.

Drew reported that the high percentage of American Farmers in Pennsylvania since 1940 who were well established in farming on a full-time basis speaks well for the aims of the vocational training which they had as vocational agriculture students during and immediately after high school. The status of these farmers indicated the majority of them found their way into farming through partnerships and acquired

land fairly rapidly. The well-rounded programs of activities which the majority of them reported attested that the American Farmers had been relatively successful as citizens of their communities as well as in their vocation. He found that part-time farmers were inclined to belong to more and different types of organizations than full-time or nonfarmers.

In 1952, Greer (24) conducted a follow-up study at Virginia Polytechnic Institute of Virginia vocational agriculture students who received the American Farmer degree since 1928. He found that a higher percentage of American Farmers engaged in farming than other ex-students of vocational agriculture and that American Farmers had more invested in farming than the applicants for the American Farmer degree had at the time they applied for the degree. The supervised farming program of these American Farmers played a large part in helping them to become established in farming. The American Farmers felt that the agricultural training received in high school was of great value to them in farming or working with farm people. American Farmers had continued to show qualities of leadership after receiving the degree. The American Farmers engaged in farming had an average gross income for a five-year period (1947-1951) that was higher than that of American Farmers not engaged in farming. Of the American Farmers not engaged in farming, most of them planned to farm in the future, and limited capital was a major reason why they were not farming. Inheritance was a major factor helping American Farmers become established in farming operations.

Bergman (9) studied the vocational agriculture students who had

been awarded the degree of State Farmer in Ohio from 1929 to 1938, ten years after they had been awarded the degree. He found that a high percentage of State Farmers remained in agricultural occupations. Fifty percent were in full-time farming, 4 percent in part-time farming and 27 percent were in occupations related to farming. Nineteen percent were in nonagricultural occupations. Improved practices, as measured by breeds of livestock introduced on the home farms as a result of farming programs in high school were continued in 71 percent of the cases. In 60 percent of the cases, State Farmers used the same farming arrangement which they had in high school to become established in farming. Forty-six percent of these State Farmers attended an agricultural college one or more years and 10 percent attended a nonagricultural college. An active interest was shown in young farmer and adult farmer courses. State Farmers showed a continued interest in leadership, cooperative activities and religious activities in the local community as well as beyond the local community.

At Michigan State in 1948, Miller (38) conducted a follow-up study of young Michigan men who received the State Farmer degree during the period 1940 to 1947, with an eye to determining the present occupational status and leadership activities of these young men, determining some of the factors related to their present occupational status, and providing possible suggestions for guidance in the training of prospective farmers. He found that 56 percent of the State Farmers were engaged in full-time farming in 1948, a total of 62.6 percent were in full-time

and part-time farming and 78 percent were in farming or related occupations. Only 6.9 percent of this group had become established as owners, although 57.2 percent reported partnerships and 18.6 percent were classified as renters. Thirteen and eight-tenths percent of the State Farmers had made little progress toward establishment in farming and were classified as laborers. After receiving the State Farmer degree, the men continued to make gains toward establishment in farming as the number in the laborer class decreased and the number of partnerships, renters and owners increased. Participation in young farmer classes was 11.5 percent, in adult classes 8.4 percent, and in organizations 83.9 percent, of which 39.3 percent had held offices.

Miller's respondents ranked family help first as a factor in becoming established in farming. FFA livestock and crop projects ranked second and third respectively, and the teacher of agriculture and the vocational agriculture classes were ranked fourth and fifth. Having a farm of sufficient size was ranked second in a list of items entitled "much help", although it was sixth in the final evaluation. State Farmers who remained in full-time farming continued membership in the Future Farmers organization in slightly larger percentages than nonfarmers. The difference increased slightly for the second and third years beyond high school. Fifty-four percent remained in the FFA at least one year.

Pilster (45), in his study of 182 Nebraska vocational agriculture students who were awarded the State Farmer degree from 1940 to 1943, found that nearly 65 percent of the State Farmers went into farming at

once, of which 3.64 percent were owners, 68.18 percent were partners, 16.37 percent were renters and 11.81 percent were farm laborers. It would be unusual if the State Farmers should remain in the class of unskilled laborers for more than a year or two. Only 6.48 percent of the State Farmers were engaged in nonagricultural occupations, and most of the unaccounted ones were in the service. In the matter of community leadership, State Farmers were rated very highly by their teachers. Less than 50 percent were rated as "average" leaders.

In 1932, Wakefield (60) wrote about the Future Farmers of America, and came to the conclusion the program was based on sound psychological principles and would develop leaders insofar as these principles were recognized and applied, other things being equal. He stated that the Future Farmers of America was too young to determine definitely whether its members would be leaders later in life, but the evidence of leadership in the older members who had already entered upon their life work, and the positions of honor of those still in the process of being trained, indicated that the Future Farmers of America had assisted in training these boys for leadership.

When McKim (35) did a follow-up study of young Michigan men who had received the State Farmer degree during the ten-year period 1930 to 1939, he found that more than three-fourths of these young men were engaged in the field of agriculture, either full- or part-time. The State Farmers who remained in farming showed definite progress toward establishment in farming with 32 percent in partnership at home, 16 percent renter-operators, and 21.6 percent owner-operators of farms.

The State Farmers reported taking an active part in community activities, with 91.7 percent reporting membership in community organizations--an average of 2.9 organizations for each person reporting. Fifty-two percent had held offices in the organizations to which they belonged, with an average of 1.8 offices for each one reporting. Of those who reported farming as their only occupation, 65.8 percent had belonged to either farm organizations only or to both farm and other organizations.

In 1954, Beal (6) studied whether selected factors were related to different degrees of participation of people in farmer cooperatives. A sample of 22 Iowa communities was chosen and a total of 268 cooperative member and 278 nonmember schedules were taken from farmers living in these communities in 1948.

The two categories of farmers were compared to determine whether there were any significant differences between members and nonmembers of farmer cooperatives.

Propositions were suggested that members and nonmembers would differ significantly when compared on the basis of a number of selected factors. Included among these factors were educational level, stage of family cycle, number of years farmed, and general social participation. With the exception of educational level, Beal's findings supported the suggested differences between members and nonmembers in the factors mentioned.

The findings supported the proposition that members and nonmembers would not differ when compared on the basis of family composition, length of residence in the community and tenure status, but not on type of

farming. The findings also supported the propositions that cooperative participation scores of members would differ significantly when compared on the basis of selected factors, including general social participation, membership in other farm organizations and size of community. Propositions were supported by the findings that participation scores would not differ significantly when compared on the basis of stage in the family cycle, tenure status, and number of years farmed.

Kaufman (33) made a study to determine the extent of participation by adults in organized activities and selected factors associated with such participation. This study was chiefly concerned with factors which influence participation of rural, especially farm, people in organized activities. Participation data and other social characteristics of 2,832 adults from eight counties in Kentucky were analyzed. Information was obtained concerning the relationship of formal participation to professional activities of farm operators. The data analyzed included the use of soil-conserving practices by the farmers studied. The use of soil-conserving practices was reported by 200 farmers who were located in three of the counties surveyed. The practices mentioned by the farmers as being followed included seeding grass and legumes, and the use of fertilizers.

It was found that the number of practices followed and awareness of them were related to participation in organized activities. The farmers who mentioned following less than two practices had 109 memberships in various organizations per 100 persons, and 67 percent of these farmers were members of one or more organizations. In contrast, those farmers

who mentioned following four or more practices had 195 memberships per 100 persons, and 91 percent had memberships in one or more organizations. Kaufman stated that these findings pointed to the conclusion that those farmers who had the more extensive organizational contacts were also more likely to be aware of and to follow improved agricultural practices.

Rich (47) reported that 74.7 percent of the FFA members awarded the American Farmer degree were engaged in farming or in occupations directly related to farming. Ninety-five of the 121 persons awarded the degree in Missouri since the FFA was established in 1928 were included in the study.

The 74.7 percent engaged in agricultural occupations included 58 persons who were farming and 13 persons who were identified with fields related to farming. Only five of the American Farmers were completely severed from agricultural occupations. The nine who were enrolled in college were studying courses in agriculture, including agricultural education. Several, if not all, of the ten who were in the armed services might return to farming.

Of the American Farmers who were not currently connected with agriculture, 23 submitted reasons for discontinuing farming. Eight gave "to enter the armed services" as their reason, 7 "to enter college", 3 "interest in other vocations", 1 "dissolution of partnership", 1 "sale of farm", and 1 "flood".

The status in farming was obtained from 55 of the 61 respondents who were farming. Thirty-one of the situations involved partnerships

in the possession or renting of land. Of the 24 nonpartners, five were full owners and 10 were part owners. The size of farms which were operated by the partners and nonpartners ranged from 100 to 1000 acres, with an average of 333.6 acres.

Conveniences found on farms were reported by 56 of those engaged in farming. All of the farms had electricity, 40 had running water, 30 had bathrooms, and 34 had central heat. Tractors were owned by 55 of the 56 persons; 48 had trucks and 47 had cars. Telephones were in 44 of the homes and television sets were owned by six families.

Sixty-five of the 95 American Farmers were married by the time of the study. Of those living on farms, 73 percent of the wives were farm reared.

Some comparisons were made between the American Farmers engaged in farming with those in other occupations. It was found that members currently farming were enrolled in vocational agriculture slightly longer than those not farming. Also, they held active membership in the FFA for longer periods after leaving high school. Nearly one-half of the entire group had been enrolled in college, but none of those engaged in farming had completed more than three years of college. The evidence seemed to indicate that the farther the American Farmers progressed in college, the less likely they were to return to farming.

In 1952, Dooley (20) made a study to determine the occupational and leadership status of young men in South Dakota who had received the State Farmer degree during the years 1930 to 1944, inclusive. He found that of the 129 State Farmers studied, 41.86 percent were engaged

in full-time farming; 27.13 percent were in related agricultural work; 24.03 percent were in nonagricultural occupations; and 6.98 percent were in military service or in college. He also found that 31.82 percent of them were renters, 28.79 percent were part-owners or part-renters, 21.21 percent were owners, 15.15 percent were partners, 3.03 percent were farming with a definite agreement. This study revealed that 68.93 percent of all South Dakota State Farmers were engaged in farming or related agricultural work. Most State Farmers became established within five years after graduation. Leadership activities were found to increase as the age of the men advanced. At the time of this study, there were 50 important offices held in county, state and national organizations by State Farmers.

METHOD OF PROCEDURE

The main objective of the entire study was to determine the influence of vocational agriculture on the establishment of graduates in farming. The objective of this particular investigation was to determine the relationship of high school vocational agriculture, participation in organized groups and establishment in farming. Different aspects of the establishment of high school graduates in farming were obtained by the use of a questionnaire (see Appendix) which was jointly prepared by Duane Blake, Edward Dakan, Earl Henderson, Duane Nielsen and James Wall. Personal interviews were the basic source of data for this study. Mail questionnaires (see Appendix) were used to procure the 1963 follow-up data.

A number of specialists were consulted by the above-named researchers during the time they planned and conducted this study. Assistance in designing the study and in completion of the statistics of the investigation was obtained from staff members C. E. Bundy, J. B. McClelland, J. E. Wert and Trevor Howe of the Education Department; Raymond R. Beneke of the Agricultural Economics Department; and Emil Jebe and LeRoy Wolins of the Statistics Department of Iowa State University. Specialists from the Agricultural Engineering, Agronomy and Animal Husbandry Departments were also consulted. The statistical methods used in this study are in accord with Snedecor (50) and Wert (61).

It was necessary to make several assumptions while planning this study. They were: (1) An unbiased sample would be drawn by the use of a completely randomized block design; (2) From a normal population two samples would be drawn with a common variance and a common mean; (3) More accurate information would be obtained by personal interview than by mail questionnaires, with each interviewer handling the same number of vocational agriculture communities as nonvocational communities; and (4) Fully adequate data could be procured by mail questionnaire for the follow-up portion of the study.

The names of all vocational agriculture schools in the central cash grain area and eastern livestock areas of Iowa were obtained from state directories and maps issued annually by the state supervisor of agricultural education. Information concerning the number of years that vocational agriculture had been taught in these schools was obtained from state reports also issued annually by the state supervisor of agricultural education.

Schools which offered vocational agriculture during at least 11 of the 12 years from 1943 through 1954 were paired with schools that did not offer vocational agriculture during the same period. Pairings were made on the basis of location, population of the town, high school enrollment, level of living index (31), and soil type.

From the 45 pairings that were made, 20 pairs were drawn at random to make up the 40 schools used in this study. The location of the 20 pairs of schools used in the entire study is shown in Figure 1. Data used in pairing the schools selected are shown in Table 1.

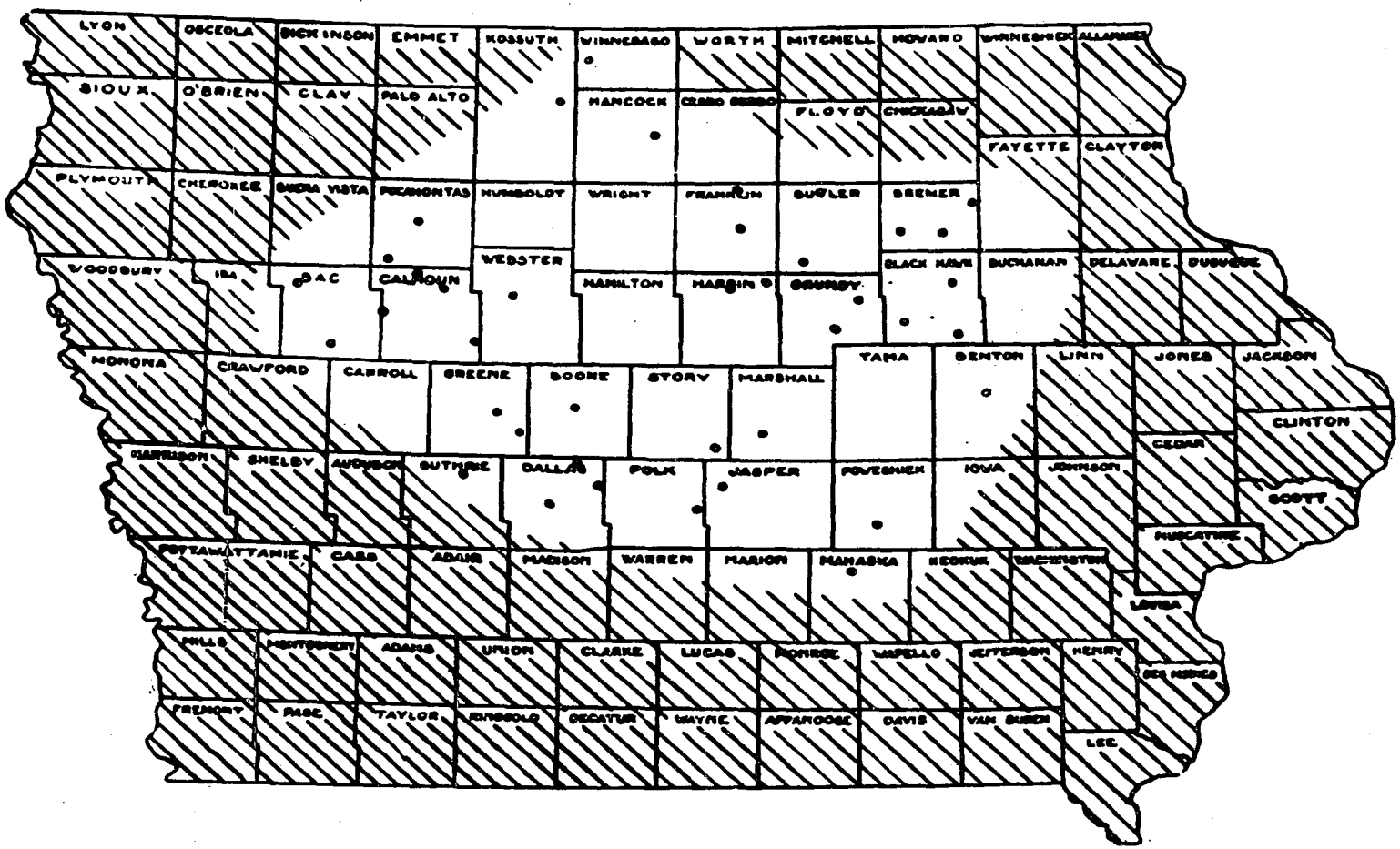

Figure 1. Location of the 40 schools included in the study

Table 1. Twenty paired schools

Type of school					
Vocational agriculture			Nonvocational agriculture		
Town	Population of town[a]	High school size	Town	Population of town[a]	High school size
Hudson	750	89	Dike	525	135
Vinton	4357	354	LaPorte City	2000	185
Dunkerton	400	116	Readlyn	468	120
Waverly	5400	349	Sumner	2000	263
Washington Twp.	353	54	Granger	350	33
Mingo	300	96	Mitchellville	906	81
Collins	550	62	Melbourne	550	72
Montezuma	1474	162	New Sharon	1042	114
Webster City	8000	559	Boone	13000	698
Rippey	400	78	Bagley	500	76
Grand Junction	1050	122	Woodward	900	128
Manson	1650	179	Farnhamville	200	135
Buffalo Center	1200	180	Titonka	589	134
Pocahontas	2000	135	Pomeroy	950	140
Lytton	400	96	Fonda	1200	79
Wall Lake	762	106	Schaller	846	102
Garner	1700	189	Sheffield	1200	128
Iowa Falls	4901	372	Grundy Center	2213	215
Hampton	4432	332	Greene	1500	201
Ackley	1800	194	Aplington	702	140

[a]Iowa educational directory (30).

The researchers listed each school and obtained from school records and other sources a list of farm boys who were living on farms at the time of graduation and who were farming during the calendar year 1955. They also classified each graduate as to whether he graduated during the 1943-1948 period of years or the 1949-1954 period of years and whether his father was a landowner or nonlandowner at the time the boy was graduated from high school. The male graduate who was farming during the calendar year 1955 was defined as a graduate who spent 50 percent or more of his time on a farm and who received 50 percent or more of his income from farming. Only those farmers with three or more years of vocational agriculture were considered as vocational agriculture graduates. Non-vocational agriculture graduates were those who attended the high schools that did not offer vocational agriculture.

The graduates of each community were classified into four groups. They follow:

(1) Graduates who completed high school during the 1943-1948 period of years and were sons of landowners.

(2) Graduates who completed high school during the 1943-1948 period of years and were sons of nonlandowners.

(3) Graduates who completed high school during the 1949-1954 period of years and were sons of landowners.

(4) Graduates who completed high school during the 1949-1954 period of years and were sons of nonlandowners.

A random sample of two graduates was drawn from each of four groups for a total of eight male graduates being drawn from each of the

40 communities. This resulted in a total of 320 graduates being personally interviewed for this entire study.

In case there were not enough graduates who were farming to fill each subgroup of the sample from any school, it was the policy to go to the nearest school which was similar to the original school, and to select at random the needed number of male graduates to fill the sample.

The entire sample as classified according to the type of high school, farm ownership status of fathers of graduates at time of graduation and year of graduation is shown in Table 2.

For the follow-up portion of the study, questionnaires were prepared and mailed to all of the 320 graduates who were previously personally interviewed.

Administering the Questionnaire

Trial interviews were conducted in order to improve the questionnaire and to determine the availability of information. After the difficulties encountered and techniques used were discussed among the researchers, a uniform policy was developed for use in making the interviews for the study.

The 320 farmers were personally interviewed by the five researchers or by their assistants. The assistants were graduate students and seniors in the Education Department at Iowa State University. Each of the five researchers was responsible for a total of 64 farmers in four

Table 2. Stratification of sample

Farm ownership status	Period of graduation	Type of high school		Total
		Vocational agriculture	Nonvocational agriculture	
Landowner	1943-1948	40	40	80
	1949-1954	40	40	80
Nonlandowner	1943-1948	40	40	80
	1949-1954	40	40	80
Total		160	160	320

different paired communities in order to equalize minor differences in interview techniques.

At the beginning of the interviewing of the farmer, a verbal explanation was given concerning the purpose of the study. During the interview, the investigator asked the farmer the questions and made the entries on the schedule. The interview averaged about 45 minutes.

A total of 215 graduates responded to the 1963 mailed follow-up questionnaire for a percentage of 67.19.

Processing the Data

The completed questionnaires were coded and the information transferred to IBM cards. Part of the tabulations were made by the Iowa State Statistical Laboratory. The Iowa State Agricultural Experiment Station financed a part of the cost of this study.

Gross product is one of the common methods of describing the size of a farm business. To analyze the farm businesses of the graduates in this study, the scope of their operations and the extent of their establishment in farming were measured in terms of gross products. The gross product as used in this study is defined as the gross production of the farm minus the livestock and feed purchases. Livestock and feed raised were treated as being purchased. This method of deducting the feed and livestock purchases was used to place graduates buying large amounts of feed and livestock on the same basis as graduates who raised all of the feed and livestock that they sold. Dollar values were used to total the volume of production.

According to Beneke (8), the use of gross product as a criterion of measurement posed two major problems: (1) Comparisons of year-to-year changes in volume of gross product are difficult because of shifts in the farm price level; and (2) Gross product will vary among farms of the same type employing the same quantity of land, labor, animals, and capital because of differences in weather. To minimize these problems, the value of livestock and crops produced and the crop yield (corn, oats and soybeans) were adjusted to a three-year average. To adjust the value of livestock and crops produced with the yields of crops adjusted, average prices of these products for the three-year period, 1953, 1954 and 1955 were used.

Average yields for these crops (corn, oats and soybeans) were obtained for the townships in which the individual farms were located for the years 1953, 1954 and 1955. Yield data were obtained from the

Iowa Department of Agriculture, Division of Agricultural Statistics.

The following is an example of the adjusting process used. If a farmer's 1955 township average were 40 bushels per acre, his average 1955 yield 20 bushels per acre and his township average for the past three years were 60 bushels per acre; as illustrated below, the farmer's adjusted yield would be 30 bushels of corn per acre.

40 bu./acre Township average 1955	20 bu./acre Farmer's average 1955
60 bu./acre Township average Past three years	30 bu./acre Farmer's adjusted yield

By adjusting yield, the effect of weather and price shifts that occur on a year-to-year basis were reduced. Since both groups of graduates were treated alike in the adjusting procedure, no bias was introduced and a value of gross product could be used as described earlier, to measure the extent of establishment of graduates in farming.

The extent to which an individual participated in each organization was given the following numerical weighting: Nonmember 1; Member 2; Committee chairman, officer or leader 5.

In most communities there are many organizations which exist and in which an individual would have the opportunity to participate. It was assumed that if a certain organization was located outside of the community, or if a nonvocational agriculture graduate was not eligible for membership that he could have sought membership in some other organization

which did exist in the community. It was also assumed that he could have traveled outside of the community to a place where the organization did exist or perhaps he could have started such an organization in his community.

After the responses on the schedules were coded, all of the organizations listed were classified into the following six groups: (1) Youth Organizations; Farm Bureau Young People, 4-H, and Future Farmers of America. (2) Farm Organizations; Farm Bureau, The Grange, Farmers Union and National Farmers Organization. (3) Cooperative Organizations; A Farmer's Cooperative. (4) Farm Service Organizations; Farm Record Association, A Livestock Poultry Breed or Dairy Herd Improvement Association, A Crop Improvement Association, A. C. P. (formerly P. M. A.), Soil Conservation Service. (5) Young and Adult Farmer Classes; Young Farmer Class and Adult Farmer Class. (6) Church Organizations; Church, Sunday School, Choir (Church), Young or Young Married Organizations (Church), Men's Organizations (Church).

Under each of these six groups of organizations, the responses of the 320 graduates were classified into eight categories of 40 graduates each, as shown in Table 2.

Numerical values for level of participation in the organized activities of the six groups of organizations were recorded for each of the 320 graduates on tabulation sheets and scores for the responses of each of the 320 graduates in each of the organized activities of the six groups of organizations were summed. A total score representing the extent of participation by each classification of the 320 graduates in

each of the six groups of organizations was obtained by adding the total score for each of the 40 graduates in each of the above eight classifications.

Mean scores representing the extent of participation of graduates in the various classifications were obtained by dividing the total participation score for each classification by the number within the classification. The participation score for each classification was further broken down for closer investigation. This closer investigation provided a study of the relationship of the six groups of organizations as broken into the eight classifications and the following: size of home farm, number of years farmed, number of years attended college, farming status of the graduate at time of this study, farm management practices used in farm records, farm production and management practices, type of farm records used, total acres farmed, total gross product.

During the closer investigation, other areas were studied. However, it was judged that the data in these other areas would lend nothing to this study. Therefore, they were not tabled. These additional areas were: number of crop acres, whether or not father was living at time of graduation, number of brothers at time of graduation, number of acres of land personally owned or rented at time of graduation, number of months spent in active military service, enrollment in G. I. on-farm training, attendance at any trade, commercial or military service school, farm mechanics practices, farm production and management practices in animal science, and farm production and management practices in crop and soils.

Group means for each of the eight classifications are indicated at the end of each table. Means for the follow-up study, which are indicated as 1963 means, are also listed at the end of each table for comparison. An analysis of variance was made to test the significance of the difference between the mean participation scores in the eight classifications. An analysis of variance to test the significance of the difference between the mean participation scores was not made on the 1963 means, since the full 320 participants did not respond.

A statistical summary was made of the data in order to arrive at an indication of the overall extent to which the two groups of graduates participated in all of the 20 organized activities included in the six groups of organizations.

Another analysis of variance was made to test the significance of the difference between the total participation score achieved by the 177 respondents in the 1963 follow-up study and the same 177 participants in the original study.

FINDINGS AND DISCUSSION

Basic data regarding the 320 graduates are presented in Tables 1 and 2 and in Figure 1. Data regarding the extent to which the vocational agriculture graduates and the graduates of the nonvocational agriculture schools participated in youth organizations, farm organizations, cooperatives, farm service organizations, young and adult farmer classes and church organizations are presented in Tables 3 through 97. Participation scores for each individual in the sample were determined by assigning numerical weights of 1, 2 and 5 to each level of participation on a five-point participation scale. The score representing the highest level of participation by each individual in a given organization or organized activity was used in the tabulation. Participation scores representing the various classifications of graduates were obtained by adding the scores of each individual in all of the activities in the various organized groups.

Mean participation scores in the different organized groups were then related to the following background information: size of home farm, number of years farmed, number of years attended college, farming status, farm management practices used in farm records, farm production and management practices, type of farm records used, acres farmed and total gross product.

A test for significance of the difference in the scores indicating the extent of participation by each of the 177 graduates who participated in the 1963 follow-up study and their respective participation scores in the original study was made with an analysis of variance. The test of

significance showed a nonsignificant F value of .122, which means that the participation scores achieved in the 1963 follow-up study varied so little from the original participation scores that the difference could not be detected by an analysis of variance. The 1963 means and the 1963 group means were added to each of the tables for comparison with the original study mean and original study group mean.

Youth Organizations

Mean participation scores in youth organizations as related to different background data are shown in Tables 3 through 14. Group mean scores of 3.44 for the vocational agriculture graduates and 3.32 for the nonvocational agriculture graduates indicate an advantage in favor of the vocational agriculture graduates in the extent of participation in youth organizations. The second period graduates in the vocational agriculture group and the nonvocational agriculture group had mean scores equal to or higher than the first period graduates. It may be that farmers have a tendency to drop their membership and leadership activities in youth organizations as they become more established in farming and interested in other farm organizations. This phenomenon can be further demonstrated by observing the 1963 means and 1963 group means. In both cases, the means of the 1963 follow-up group are lower in participation in youth organizations as compared with the original group.

A closer investigation of Table 3 discloses a definite relationship between the participation scores in youth organizations when related to

Table 3. Mean participation scores in youth organizations as related to size of home farm

Range in acres	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1-80	3.00	3.00	3.00	--		3.00	3.00	3.00	3.00	
81-120	4.33	3.00	3.00	3.50		3.00	3.40	3.00	3.00	
121-160	3.14	3.20	3.44	3.11		3.27	3.10	3.83	3.09	
161-200	3.00	4.00	3.40	4.14		3.14	3.00	3.20	3.22	
201-240	4.00	3.25	3.00	3.44		3.80	3.00	3.12	3.80	
241-280	3.00	5.25	3.25	3.33		3.00	3.00	3.00	3.00	
281-320	3.00	3.17	3.00	3.00		3.00	3.00	3.00	3.17	
321-360	4.00	--	--	4.00		3.00	4.33	4.67	5.50	
361-400	3.00	5.67	5.00	--		3.00	5.50	3.00	--	
401 or more	3.20	3.00	3.00	3.00		--	4.67	4.00	3.00	
Mean	3.38	3.65	3.28	3.45	3.44	3.20	3.42	3.32	3.32	3.32
1963 mean	3.48	3.52	3.00	3.75	3.39	3.32	3.25	3.28	3.15	3.24

the size of the home farm. As the range in acres of the home farm increases, the participation scores tend to increase. It can also be noted in Table 3 that the 1963 group mean for the nonvocational agriculture group decreased more than the 1963 group mean for the vocational agriculture group.

Data in Table 4 illustrate the mean participation scores in youth organizations as related to number of years farmed. These data seem to indicate a relationship between participation in youth organizations and number of years farmed. Starting with the second year after graduation, the mean participation scores appear to increase until the sixth or seventh year, then tend to decrease. This may indicate that as the farmer becomes better established he starts participating more in other organizations and less in youth organizations.

Mean participation scores in youth organizations as related to number of years attended college, presented in Table 5, tend to increase for the first two years of college attendance, then appear to drop off. It would seem logical to deduct that as the graduates progress in their college work, they have less need and desire to participate in the youth organizations in their home communities. They may also find that these organizations are replaced by college sponsored activities.

As the farm status of the graduates improves, the mean participation scores in youth organizations appear to increase, as shown in Table 6. It appears that the mean participation scores increase up to or through the livestock share lease status, then tend to level off or decrease. It should also be noted that the vocational agriculture group makes a

Table 4. Mean participation scores in youth organizations as related to number of years farmed

Years	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1	3.00	3.00	3.00	3.00		3.00	3.00	--	4.00	
2	--	3.02	--	3.71		--	3.50	--	3.33	
3	3.00	3.90	--	3.12		3.00	3.12	3.00	3.45	
4	5.50	3.17	3.00	3.25		5.00	3.44	3.00	3.11	
5	3.00	3.00	3.00	3.17		3.33	3.28	5.50	3.67	
6	--	3.00	4.20	4.00		3.00	4.50	3.00	--	
7	3.00	4.25	4.33	3.50		4.00	3.00	3.00	3.00	
8	3.50	--	3.00	--		3.33	--	3.11	--	
9	3.00	--	3.00	--		3.00	--	3.00	--	
10	3.50	--	4.00	--		3.00	--	3.40	--	
11	3.00	--	3.17	--		3.33	--	3.00	--	
12	3.56	--	4.00	--		3.00	--	5.50	--	
Mean	3.38	3.65	3.28	3.45	3.44	3.20	3.42	3.32	3.32	3.32
1963 mean	3.48	3.52	3.00	3.75	3.39	3.32	3.25	3.28	3.15	3.24

Table 5. Mean participation scores in youth organizations as related to number of years attended college

Years	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group
None	3.28	3.44	3.24	3.44		3.16	3.39	3.28	3.14	
1	4.00	5.50	3.00	3.25		3.00	4.20	3.00	5.25	
2	3.20	--	4.14	8.00		3.00	3.00	4.00	8.00	
3	3.00	--	--	--		3.00	--	3.67	--	
4	5.50	--	--	--		5.00	--	3.00	--	
Mean	3.38	3.65	3.28	3.45	3.44	3.20	3.42	3.32	3.32	3.32
1963 mean	3.48	3.52	3.00	3.75	3.39	3.32	3.25	3.28	3.15	3.24

Table 6. Mean participation scores in youth organizations as related to farming status

Status	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Without definite wages	3.00	4.60	--	3.33		--	3.45	3.00	3.14	
With definite wages	3.00	3.50	3.00	3.25		--	3.33	3.00	3.50	
With or without wages plus a share of the profits	3.00	3.25	--	3.45		7.00	3.80	5.50	4.00	
Income sharing agreement or partnership	4.50	3.12	4.00	4.00		3.00	3.14	3.25	3.00	
Livestock share lease	3.06	4.36	3.44	3.71		3.08	3.00	3.00	3.00	
Crop share lease	3.54	3.00	3.15	3.33		3.12	3.86	3.43	3.10	
Cash lease	3.00	3.00	3.80	3.00		3.33	--	3.20	--	
Part owner-operator	--	--	--	--		3.00	--	3.00	--	
Owner-operator	3.50	--	--	--		3.00	--	3.00	--	
Mean	3.38	3.65	3.28	3.45	3.44	3.20	3.42	3.32	3.32	3.32
1963 mean	3.48	3.52	3.00	3.75	3.39	3.32	3.25	3.28	3.15	3.25

steady increase in mean participation scores up through the livestock share lease whereas the nonvocational agriculture group appears to have higher mean participation scores at a lower status, and then tend to level off and decrease earlier than the vocational agriculture group. The tendency for the vocational agriculture group to participate in youth organizations at a higher status may be one of the reasons why their group mean of 3.44 is higher than the nonvocational agriculture group mean of 3.32.

As seen in Table 7, the mean participation scores in youth organizations are related to farm management practices used in farm record keeping. The farm management practices used in keeping farm records appear to have an inverse effect on the mean participation scores in youth organizations. The vocational agriculture group has higher mean participation scores when they are using more of the accepted practices in record keeping, whereas the nonvocational agriculture group tends to have higher scores when they are using less accepted management practices in record keeping. It may be that the vocational agriculture graduates have a higher respect for the proper management practices used in farm record keeping, and at the same time, participate more in youth organizations. On the other hand, the nonvocational agriculture graduates may find more time to participate in youth organizations when they are not keeping proper farm records. These data would tend to substantiate the leadership training that vocational agriculture graduates receive in the Future Farmers of America in conjunction with the approved farm management practices to be used in farm record keeping that are taught

Table 7. Mean participation scores in youth organizations as related to farm management practices used in farm records

Extent used	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Always	3.40	3.94	3.34	3.48		3.00	3.77	3.58	3.28	
Usually	3.46	3.79	3.17	3.20		3.30	3.19	3.04	3.19	
Frequently	3.12	3.00	3.18	3.95		3.05	3.00	3.12	3.35	
Seldom	3.50	3.00	3.54	3.20		3.11	4.67	4.00	4.27	
Never	3.33	3.20	3.00	3.21		3.33	3.64	3.19	3.25	
Does not apply	--	--	--	4.00		3.00	3.00	3.75	3.00	
Mean	3.38	3.65	3.28	3.45	3.44	3.20	3.42	3.32	3.32	3.32
1963 mean	3.48	3.52	3.00	3.75	3.39	3.32	3.25	3.28	3.15	3.25

in the vocational agriculture classroom.

As presented by data in Table 8, the mean participation scores in youth organizations are related to farm production and management practices. These farm production and management practices include all of the approved practices in animal science and agronomy considered in this study. When the vocational agriculture group is compared with the nonvocational agriculture group, in the "always" and "usually" category, it is evident that the vocational agriculture group has higher mean scores than the nonvocational agriculture group. There is a high correlation of farm production and management practices with participation in youth organizations in the vocational agriculture group, whereas in the nonvocational agriculture group there is not this same correlation. The nonvocational agriculture group appears to display no correlation in participation scores in youth organizations when related to farm production and management practices. It may be that training in vocational agriculture enables the vocational agriculture graduates to appreciate the importance of farm production and management practices in contributing to the welfare of farmers.

As indicated by data in Table 9, the mean participation scores in youth organizations increase as more detailed types of farm records are used. This correlation appears to exist in both the vocational agriculture and nonvocational agriculture groups. Perhaps training in 4-H Clubs enables the nonvocational agriculture graduates to appreciate the importance of farm record keeping as well as those in the vocational

Table 8. Mean participation scores in youth organizations as related to farm production and management practices

Extent used	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Always	3.33	3.89	3.37	3.47		3.16	3.57	3.47	3.37	
Usually	3.55	3.68	3.23	3.40		3.21	3.29	3.11	3.26	
Frequently	3.28	3.32	2.98	3.40		3.10	3.16	3.15	3.34	
Seldom	3.52	3.18	3.22	3.43		3.23	3.38	3.22	3.38	
Never	3.33	3.38	3.24	3.45		3.25	3.43	3.04	3.34	
Does not apply	3.27	3.42	3.18	3.43		3.21	3.42	3.32	3.25	
Mean	3.38	3.65	3.28	3.45	3.44	3.20	3.42	3.32	3.32	3.32
1963 mean	3.48	3.52	3.00	3.75	3.39	3.32	3.25	3.28	3.15	3.25

Table 9. Mean participation scores in youth organizations as related to type of farm records used

Type	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group
None	3.00	3.00	3.00	4.00		3.00	3.00	3.00	3.00	
Receipts, expenditures and depreciation	3.60	3.00	3.00	3.00		3.00	3.67	3.00	3.00	
Receipts, expenditures and depreciation plus one other	3.00	4.00	3.00	3.73		3.38	3.42	3.08	3.09	
Receipts, expenditures and depreciation plus two others	3.00	3.38	3.70	3.29		3.20	3.33	3.62	3.33	
Receipts, expenditures and depreciation plus net worth, analysis and inventories	3.75	4.09	3.31	3.40		3.10	3.83	3.57	3.88	
Mean	3.38	3.65	3.28	3.45	3.41	3.20	3.42	3.32	3.32	3.32
1963 mean	3.48	3.52	3.00	3.75	3.39	3.32	3.25	3.28	3.15	3.25

agriculture group, so that the mean participation scores tended to increase as the better types of farm records were kept. Information concerning farm record keeping is quite readily available to nonvocational agriculture students through the extension service and 4-H Clubs, which would offset any advantage the vocational agriculture group might have in a trend toward using better farm records when correlated with participation in youth organizations. Table 9 also discloses that graduates who were participating in youth organizations in the main were using farm receipts, expenditures and depreciation schedules plus one of the other three practices mentioned. The other practices mentioned were net worth statement, record analysis and inventories.

Information regarding mean participation scores in youth organizations as related to acres farmed is shown in Table 10. There appear to be quite an even spread of mean participation scores in youth organizations when compared with the different ranges in acres farmed by the graduates. However, the mean participation scores appear to be higher among those graduates who are farming farms in the 81-120 acre range, the 201-240 range and the 321-420 acre range. This is true of the vocational agriculture group as well as the nonvocational agriculture group. It should also be noted in Table 10 that the vocational agriculture graduates had considerably larger mean participation scores in youth organizations in the acre ranges of 1-80 and 81-120 than the nonvocational agriculture graduates.

A comparison of the mean participation scores in youth organizations as related to total gross product is illustrated in Table 11. Except for

Table 10. Mean participation scores in youth organizations as related to acres farmed

Range in acres	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1-80	--	--	5.00	4.50		3.00	--	3.33	3.00	
81-120	--	4.80	3.00	3.14		3.12	3.14	3.00	3.00	
121-160	3.11	3.13	3.14	3.60		3.08	3.50	3.00	3.00	
161-200	3.00	3.80	3.14	3.75		3.17	3.00	3.00	3.40	
201-240	3.88	3.67	3.00	3.66		4.25	3.33	3.14	3.67	
241-280	3.00	3.00	3.80	3.50		3.00	4.33	3.00	3.00	
281-320	3.00	3.33	3.00	3.00		3.00	3.00	3.80	3.00	
321-420	4.00	7.00	--	3.00		3.00	3.83	5.00	5.33	
421-520	3.00	3.00	3.00	3.00		--	3.00	3.00	--	
521 or over	4.25	3.00	--	--		--	--	--	3.00	
Mean	3.38	3.65	3.28	3.45	3.44	3.20	3.42	3.32	3.32	3.32
1963 mean	3.48	3.52	3.00	3.75	3.39	3.32	3.25	3.28	3.15	3.25

Table 11. Mean participation scores in youth organizations as related to total gross product

Range in dollars	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
100-2,000	--	3.00	--	3.50		5.00	4.33	3.00	3.25	
2,100-4,000	3.50	3.00	3.00	4.00		3.00	3.00	3.15	3.00	
4,100-6,000	3.00	3.94	3.36	3.18		3.20	3.08	3.00	3.19	
6,100-8,000	3.18	5.00	3.33	3.22		3.14	3.28	3.58	3.50	
8,100-10,000	3.50	3.00	3.50	3.50		3.00	4.00	3.12	4.67	
10,100-12,000	3.00	3.00	3.00	3.00		3.00	4.00	3.00	3.00	
12,100-14,000	3.00	3.00	3.00	3.00		3.50	3.00	7.00	--	
14,100-18,000	3.00	3.50	3.00	5.00		3.00	--	--	--	
18,100 and over	4.20	--	--	3.00		--	--	3.00	--	
Mean	3.38	3.65	3.28	3.45	3.44	3.20	3.42	3.32	3.32	3.32
1963 mean	3.48	3.52	3.00	3.75	3.39	3.32	3.25	3.28	3.15	3.25

the nonvocational agriculture group within the $100-$2000 range, both the vocational agriculture group and nonvocational agriculture group have a tendency to increase in mean participation scores as the range in dollars of total gross product increases. In the larger ranges, they tend to drop off somewhat. The vocational agriculture group with the highest mean participation scores in youth organizations when related to total gross product is in the $6100-$8000 range; whereas the nonvocational agriculture group with the highest mean participation scores in youth organizations as related to total gross product is in the $12,000-$14,000 range. It should also be noted that more of the vocational agriculture graduates reach higher ranges in dollars of total gross product than the nonvocational agriculture group. This is especially true of the nonvocational agriculture graduates whose parents were nonowners of their farms at the time of the son's graduation.

These data also point out that there were fewer vocational agriculture graduates in lower ranges of total gross products. It appears that as vocational agriculture graduates reach the $10,100-$12,000 and $12,100-$14,000 range in total gross product they tend to participate considerably less in youth organizations. This information coincides with a previous study made by Blake (10) in which he stated that the mean total gross product of the vocational agriculture graduates exceeded the mean total gross product of the nonvocational agriculture graduates by $1,506.75.

Mean scores for participation in the Farm Bureau Young People's Organization by vocational agriculture and Nonvocational agriculture graduates are shown in Table 12. Three organizations were grouped in the youth

Table 12. Mean scores for participation in Farm Bureau Young People's Organization

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	1.20	1.20	1.20
	Nonowner	1.12	1.12	1.12
	Both	1.16	1.16	1.16
1949-1954	Owner	1.10	1.22	1.16
	Nonowner	1.20	1.15	1.18
	Both	1.15	1.18	1.17
Both periods	Owner	1.15	1.21	1.18
	Nonowner	1.16	1.14	1.15
	Both	1.16	1.18	1.17

organizations. They were Farm Bureau Young People's Organization, 4-H Clubs and Future Farmers of America. Total mean score of 1.16 for the vocational agriculture graduates and 1.18 for the nonvocational agriculture graduates indicate a slight advantage in favor of the nonvocational agriculture graduates in the extent of participation in the Farm Bureau Young People's Organization. There was no difference between the vocational agriculture graduates and the nonvocational agriculture graduates when compared on the basis of the first period of graduation. However, the nonvocational agriculture graduates held a slight advantage in the mean score when compared with the vocational agriculture graduates in the second period of graduation.

A test for significance of the difference in the mean scores indicating the extent of participation in the Farm Bureau Young People's Organization by each of the groups in the sample was made with analysis of

variance. No significant difference was found.

In each of the six major groups of organizations, an analysis of variance was computed. A test for significance of the differences in the mean scores indicating extent of participation by each of the subgroups in the sample was made by treatment of the total score for each subgroup with analysis of variance. In the first analysis, a comparison was made of the extent of participation in the different organizations by farmers who were graduates of vocational agriculture and non-vocational agriculture schools. In the second analysis, comparison was made of the extent of participation in the different organizations by the farmers whose parents owned their farm or did not own their farm at the time of the son's graduation, when all other factors are disregarded. In the third analysis, a comparison was made of the extent of participation in each of the organizations by farmers who graduated during the 1943-1948 period and the farmers who graduated during the 1949-1954 period. In the fourth, fifth, sixth and seventh analyses, comparisons were made of the extent of participation in the different organizations when vocational agriculture status, ownership status and period of graduation were involved in interactions.

An F value was determined by dividing the mean square obtained for each main effect and interaction by the within mean square. For significance, F values of 3.86 at the five percent level and 6.70 at the one percent level were required. The number of graduates is the same for all of the different organizations included in this study. Because the

degrees of freedom for the main classifications and within the classifications are the same, these values for the five percent level and the one percent level are the same for each test of significance.

Table 13. Mean scores for participation in 4-H Clubs

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	1.15	1.00	1.07
	Nonowner	1.02	1.20	1.11
	Both	1.08	1.10	1.09
1949-1954	Owner	1.32	1.20	1.26
	Nonowner	1.15	1.18	1.16
	Both	1.24	1.19	1.22
Both periods	Owner	1.24	1.10	1.17
	Nonowner	1.08	1.19	1.14
	Both	1.16	1.14	1.15

Mean scores for participation in 4-H Clubs are illustrated in Table 13. These data disclose that among the graduates who graduated during the earlier period of graduation, the nonvocational agriculture graduates slightly exceeded the vocational agriculture graduates in mean scores achieved. During the latter period of graduation, the vocational agriculture graduates had a mean score of 1.24 compared with the nonvocational agriculture graduate mean score of 1.19. It should be noted that the graduates who graduated during the second period of graduation exceeded the graduates of the first period of graduation in mean scores achieved for participation in 4-H Clubs. During both periods, the vocational

was determined for the difference between the graduation periods. Mean scores given in Table 13 indicate that this difference is in favor of the second period graduates in the extent of participation in 4-H Clubs.

Mean scores for participation in the Future Farmers of America were not tabled since the nonvocational agriculture graduates had no opportunity to participate in this organization. It was noted that the participation in the Future Farmers of America by graduates from vocational agriculture schools was insignificant.

Data in Table 14 present the mean scores for participation in youth organizations. It should be noted that the mean participation score for vocational agriculture graduates is 3.44, compared with a mean participation score of 3.32 for the nonvocational agriculture graduates. The vocational agriculture graduates have slightly higher mean scores in both periods of graduation as well as the total mean scores over the nonvocational agriculture graduates. However, there is no significant difference.

Farm Organizations

As seen in Tables 15 through 28, mean participation scores in farm organizations are related to size of home farm, number of acres farmed, number of years attended college, farming status, farm management practices in farm records, farm production management practices, type of records used, acres farmed and total gross product. Mean participation scores in farm organizations for the eight different classifications of graduates are presented in Tables 15 through 23. As these tables

Table 14. Mean scores for participation in youth organizations

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	3.38	3.20	3.29
	Nonowner	3.28	3.32	3.30
	Both	3.32	3.26	3.29
1949-1954	Owner	3.65	3.42	3.54
	Nonowner	3.45	3.32	3.39
	Both	3.55	3.38	3.46
Both periods	Owner	3.51	3.31	3.41
	Nonowner	3.36	3.32	3.34
	Both	3.44	3.32	3.38

indicate, the vocational agriculture graduates have a group mean score of 5.16, as compared with the nonvocational agriculture graduates group mean score of 4.92. The mean scores of the different classifications of vocational agriculture graduates exceeds those of the nonvocational agriculture graduates except for the graduates of the second period whose parents were nonowners. The first period vocational agriculture graduates whose parents were in the owner status had a mean score of 5.88, as compared with the same group of nonvocational agriculture graduates' mean score of 5.30. Likewise, the second period vocational agriculture graduates whose parents were in the owner status had a mean of 5.06, as compared with a mean score of 4.75 for the second period nonvocational agriculture graduates whose parents were in the owner status. The first period vocational agriculture graduates whose parents were in the nonowner status had a mean score of 5.20, as compared with the mean score of 5.12

for the first period nonvocational agriculture graduates whose parents were in the nonowner status. When comparing the second period graduates whose parents were in the nonowner status, the data show that the vocational agriculture group had a mean score of 4.50, as compared with the slightly higher mean score of 4.52 for the nonvocational agriculture graduates. In both the vocational agriculture and nonvocational agriculture groups, the first period graduates exceeded the second period graduates in all of the different classifications. This may be because of the need for participation in these types of organizations, as the graduates mature and become better established in farming. Also the graduates of the earlier period have usually been established in a given community for a longer period of time than the later graduates. Therefore, the earlier graduates, as a rule, have had more time to become interested, to actively participate and to become leaders in organizations devoted to the betterment of the farmer. The higher scores for the vocational agriculture graduates may be due in part to the type of training received in the vocational agriculture classes. Generally, students in vocational agriculture have an opportunity to study the objectives and purposes as well as the benefits of the different farm organizations.

The 1963 mean participation scores and 1963 group mean participation scores in farm organizations are also shown in Tables 16 through 23. It should be noted here that the 1963 group mean participation scores for the vocational agriculture group increased from 5.16 to 5.32 whereas the 1963 group mean of the nonvocational agriculture group decreased slightly from 4.92 to 4.80. Therefore, the vocational agricul-

ture graduates' advantage in mean participation scores obtained in farm organizations increased from .24 to .52. It would seem that the influence of vocational agriculture on participation in farm organizations has a long-time and continuing effect.

Mean participation scores in farm organizations as related to size of home farm are exhibited in Table 15. A closer investigation of the data in Table 15 reveals that there seem to be no definite trends in mean participation scores when related to the size of home farm. The vocational agriculture graduates appear to score higher in all acre ranges except the 201-240 range. In this range, the nonvocational agriculture graduates appear to have slightly higher mean participation scores. When the first two ranges in acres are compared with the larger two ranges in acres, the vocational agriculture graduates appear to have higher mean scores in the smaller ranges of acres, whereas the nonvocational agriculture group appear to have slightly smaller mean participation scores when compared in the same set of ranges. In both groups, the middle group of ranges in acres appear to be about the same with little variation from range to range. The only difference seems to be that the vocational agriculture graduates have slightly higher mean participation scores.

As shown in Table 16, there appears to be a definite relationship between participation scores achieved in farm organizations as related to number of years farmed. In both the vocational agriculture group and the nonvocational agriculture group, the participation scores appear to

Table 15. Mean participation scores in farm organizations as related to size of home farm

Range in acres	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1-80	4.50	9.00	5.00	--		4.00	5.00	4.67	4.00	
81-120	8.00	5.20	7.00	5.50		4.60	4.60	4.00	5.00	
121-160	5.86	5.10	5.00	4.33		5.73	4.60	5.17	4.54	
161-200	6.25	4.60	5.20	4.86		5.71	4.86	5.00	4.33	
201-240	5.28	5.00	4.50	4.44		5.00	4.00	6.00	4.40	
241-280	5.00	4.75	6.50	4.00		5.60	5.00	5.50	4.00	
281-320	6.00	5.00	5.00	4.25		5.00	5.40	4.75	5.00	
321-360	5.50	--	--	4.33		4.50	4.67	4.33	4.50	
361-400	5.67	4.67	5.50	--		5.00	5.00	4.00	--	
401 or more	6.40	5.00	5.00	4.67		--	4.33	6.00	4.33	
Mean	5.88	5.06	5.20	4.50	5.16	5.30	4.75	5.12	4.52	4.92
1963 mean	5.45	5.33	5.27	5.19	5.32	4.76	4.69	4.39	4.81	4.80

Table 16. Mean participation scores in farm organizations as related to number of years farmed

Years	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1949	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group
1	6.00	4.00	5.00	4.50		5.00	4.50	--	4.25	
2	--	5.00	--	4.14		--	4.38	--	4.22	
3	5.00	5.30	--	4.62		5.33	4.75	4.50	4.91	
4	5.00	5.33	5.00	4.75		4.50	4.67	6.67	4.67	
5	6.33	4.80	6.00	4.33		4.67	4.71	4.50	4.17	
6	--	5.00	4.80	5.00		4.83	6.00	6.00	--	
7	4.50	5.00	6.00	5.50		5.00	4.50	4.60	5.00	
8	6.00	--	5.80	--		6.33	--	5.11	--	
9	6.14	--	5.17	--		5.20	--	4.88	--	
10	5.83	--	5.25	--		5.60	--	5.00	--	
11	6.50	--	4.67	--		6.00	--	5.00	--	
12	6.33	--	5.25	--		5.00	--	6.00	--	
Mean	5.88	5.06	5.20	4.50	5.16	5.30	4.75	5.12	4.52	4.92
1963 mean	5.45	5.33	5.27	5.19	5.32	4.76	4.69	4.39	4.81	4.80

increase as the number of years farmed increased. The highest mean scores achieved by the vocational agriculture graduates appear to be among those who had farmed for eight years. Likewise, among the nonvocational agriculture graduates, the highest mean scores in farm organizations are among those who had farmed for eight years.

The relationship of mean participation scores in farm organizations and number of years attended college are presented by data in Table 17. There is a positive relationship between participation scores in farm organizations and number of years attended college as the years of college attendance are increased. Both the vocational agriculture graduates and the nonvocational agriculture graduates had higher mean participation scores in farm organizations as the years attended college increased. It should be noted that there is one exception to these foregoing statements. That is among the vocational agriculture graduates who attended four years of college. This particular group scored lower than any of the other vocational agriculture graduates. This may be due to the small number of vocational agriculture graduates who attended college for four years. In the main, these data do show that participation in farm organizations increases as the high school graduates attend more years of college.

Mean participation scores in farm organizations when related to farming status are disclosed in Table 18. The lowest participation score seemed to be for those graduates who were in the status of having definite wages. This was true of both the vocational agriculture graduates and the nonvocational agriculture graduates. This may

Table 17. Mean participation scores in farm organizations as related to number of years attended college

Years	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
None	5.82	5.01	5.14	4.48		5.26	4.78	5.02	4.52	
1	5.00	5.42	6.00	4.75		5.90	4.60	5.50	4.50	
2	6.60	--	5.14	4.50		5.25	4.60	5.50	5.00	
3	8.50	--	--	--		6.00	--	6.00	--	
4	5.00	--	--	--		4.25	--	8.00	--	
Mean	5.88	5.06	5.20	4.50	5.16	5.30	4.75	5.12	4.52	4.92
1963 mean	5.45	5.33	5.27	5.19	5.32	4.76	4.69	4.39	4.81	4.80

Table 18. Mean participation scores in farm organizations as related to farming status

Status	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Without definite wages	5.00	4.60	--	4.33		--	4.36	5.00	4.28	
With definite wages	4.00	4.00	4.50	4.00		--	4.67	5.00	3.75	
With or without wages plus a share of the profits	4.00	4.50	--	4.09		5.00	4.80	4.00	4.28	
Income sharing agreement or partnership	6.00	5.50	5.25	4.50		4.67	4.71	5.00	5.00	
Livestock share lease	6.00	5.18	5.33	5.28		5.00	4.71	5.30	5.00	
Crop share lease	6.08	5.33	5.10	4.50		5.59	5.43	5.28	4.60	
Cash lease	7.00	4.00	5.60	6.00		6.00	--	4.80	--	
Part owner-operator	--	--	--	--		6.00	--	6.00	--	
Owner-operator	4.50	--	--	--		4.67	--	5.00	--	
Mean	5.88	5.06	5.20	4.50	5.16	5.30	4.75	5.12	4.52	4.92
1963 mean	5.45	5.33	5.27	5.19	5.32	4.76	4.69	4.39	4.81	4.80

due to many or most of the hired hands being classified in this status, since they would be hired with definite wages; whereas many of the sons farming on the home farm may be working without definite wages. The data illustrates that as the graduates become more established in farming, their participation scores in farm organizations tend to increase. This is true except for those in the owner-operator status, in which case both the vocational agriculture graduates and nonvocational agriculture graduates seem to have slightly smaller participation scores. This may be in part due to the smaller number of graduates who were in this higher status; however, it may also be due to a lack of time when the graduate becomes established as an owner-operator. Among the vocational agriculture graduates, the highest mean participation scores in farm organizations appear to be among those who were in the cash lease status. The highest mean scores in farm organizations in the nonvocational agriculture group appear to be among those in part owner-operator status.

There seemed to be very little relationship between the mean participation scores in farm organizations and farm management practices in farm records, as disclosed in Table 19. In the vocational agriculture group, the highest mean participation scores in farm organizations appear to be when the management practices are seldom used; whereas in the nonvocational agriculture group the highest mean participation scores in farm organizations appear to be when the practices are used frequently. The lowest mean participation scores appear to be in the "never used" category; however, the highest mean participation scores in farm organi-

Table 19. Mean participation scores in farm organizations as related to farm management practices in farm records

Extent used	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Always	5.55	5.12	5.47	4.42		5.35	4.58	4.70	4.60	
Usually	5.69	5.12	4.94	4.60		5.40	5.06	4.89	4.74	
Frequently	6.24	4.89	5.27	4.32		5.33	4.92	5.35	4.60	
Seldom	5.50	5.45	4.82	5.40		5.33	4.67	5.12	4.09	
Never	6.00	4.47	4.88	4.47		4.22	4.45	5.29	4.43	
Does not apply	--	--	--	5.00		4.25	4.50	5.50	4.00	
Mean	5.88	5.06	5.20	4.50	5.16	5.30	4.75	5.12	4.52	4.92
1963 mean	5.45	5.33	5.27	5.19	5.32	4.76	4.69	4.39	4.81	4.80

zations were not in the "always used" category.

As presented in Table 20, mean participation scores in farm organizations are related to all farm production and management practices. The vocational agriculture group tended to have higher mean participation scores in farm organizations as the use of farm production and management practices was increased. The highest mean participation scores seemed to be when the practices were used "usually", with the next category of practices being used "always" dropping only slightly; whereas the mean participation scores of the nonvocational agriculture group tend to be somewhat erratic as the practices used were increased. The mean participation scores in this group of farm organizations were lowest in the "never" category of practices used among the vocational agriculture graduates. Among the nonvocational agriculture graduates the lowest mean scores appeared to be in the "seldom used" category. The highest mean participation scores of the vocational agriculture graduates appeared to be in the "usually used" category, in contrast to the highest mean participation scores of the nonvocational agriculture group appearing to be in the "frequently used" category.

Table 21 renders data regarding mean participation scores in farm organizations as related to type of farm records used. Both groups of graduates show a definite correlation of mean participation scores becoming higher as the type of farm records used was improved. The lowest mean participation scores in farm organizations reported by the vocational agriculture graduates and nonvocational agriculture graduates

Table 20. Mean participation scores in farm organizations as related to farm production management practices

Extent used	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Always	5.80	5.06	5.35	4.53		5.44	4.72	4.99	4.56	
Usually	6.04	5.21	5.08	4.53		5.28	4.81	5.24	4.52	
Frequently	6.03	5.15	5.13	4.50		5.31	4.82	5.34	4.62	
Seldom	5.76	5.27	4.98	4.45		5.00	4.54	5.25	4.30	
Never	5.80	4.74	4.96	4.47		5.24	4.74	5.06	4.46	
Does not apply	5.75	5.03	5.25	4.66		5.13	4.77	5.15	4.48	
Mean	5.88	5.06	5.20	4.50	5.16	5.30	4.75	5.12	4.52	4.92
1963 mean	5.45	5.33	5.27	5.19	5.32	4.76	4.69	4.39	4.81	4.80

Table 21. Mean participation scores in farm organizations as related to type of farm records used

Type	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
None	5.00	4.75	4.50	5.00		5.00	4.75	5.00	4.00	
Receipts, expenditures and depreciation	6.00	4.00	4.67	5.00		5.00	4.67	5.80	4.33	
Receipts, expenditures and depreciation plus one other	5.80	4.88	5.33	4.54		5.31	4.50	5.33	4.45	
Receipts, expenditures and depreciation plus two others	5.50	5.06	5.50	4.29		5.20	4.93	4.92	4.67	
Receipts, expenditures and depreciation plus net worth, analysis and inventories	6.12	5.36	5.08	4.70		5.60	4.83	4.71	4.62	
Mean	5.88	5.06	5.20	4.50	5.16	5.30	4.75	5.12	4.52	4.92
1963 mean	5.45	5.33	5.27	5.19	5.32	4.76	4.69	4.39	4.81	4.80

occurred in the classification of "no farm records". On the other hand, the highest score held by both groups was in the highest type of farm records that could be used. In all cases, the vocational agriculture group appeared to have higher mean participation scores than the non-vocational agriculture graduates.

When the mean participation scores in farm organizations were related to acres farmed, as shown in Table 22, there appear to be constant relationships among the vocational agriculture graduates and the nonvocational agriculture graduates. The data seem to denote that as the size of the farm increased, the mean participation scores in farm organizations among vocational agriculture graduates appeared to increase. On the other hand, among the nonvocational agriculture graduates, the mean participation scores in farm organizations seemed to decrease somewhat as the size of farm increased.

Table 23 shows the mean participation scores in farm organizations when related to total gross product. As the total gross product increased, the mean participation scores in farm organizations for the vocational agriculture graduates also seemed to increase. The same seems to be true for the nonvocational agriculture graduates. As their total gross product increased, their mean participation scores in farm organizations tended to increase.

Mean scores for participations in the Farm Bureau Organization are shown in Table 24. The data in Table 24 disclose that the vocational agriculture graduates participated more in the Farm Bureau than nonvocational agriculture graduates. The vocational agriculture graduates had

Table 22. Mean participation scores in farm organizations as related to acres farmed

Range in acres	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1-80	--	--	5.00	4.00		5.67	--	5.16	5.00	
81-120	--	4.80	5.00	4.86		5.25	4.43	6.00	4.75	
121-160	5.44	5.13	5.07	4.70		5.46	5.00	5.00	4.31	
161-200	6.25	5.00	5.43	4.50		5.67	4.83	5.17	4.60	
201-240	5.75	5.00	4.71	4.16		4.75	4.67	5.71	4.50	
241-280	5.75	4.00	6.00	4.00		5.50	5.33	5.50	4.00	
281-320	5.33	5.00	5.00	4.40		5.50	4.50	4.60	4.67	
321-420	5.50	4.50	--	5.00		5.00	4.33	4.33	5.00	
421-520	6.50	5.67	6.00	4.00		--	5.00	4.00	--	
521 or over	6.75	6.00	--	--		--	--	--	4.33	
Mean	5.88	5.06	5.20	4.50	5.16	5.30	4.75	5.12	4.52	4.92
1963 mean	5.45	5.33	5.27	5.19	5.32	4.76	4.69	4.39	4.81	4.80

Table 23. Mean participation scores in farm organizations as related to total gross product

Range in dollars	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
100-2,000	--	4.00	--	4.17		4.50	4.33	4.50	4.75	
2,100-4,000	6.50	5.00	5.00	4.75		4.62	4.50	4.71	4.50	
4,100-6,000	5.25	5.06	4.91	4.36		5.60	4.50	5.00	4.56	
6,100-8,000	5.54	4.80	5.44	4.33		5.00	5.43	5.17	4.37	
8,100-10,000	6.25	5.75	5.00	5.00		4.67	4.67	5.75	4.33	
10,100-12,000	6.50	4.50	5.00	5.00		6.40	6.00	5.50	5.00	
12,100-14,000	5.50	5.50	5.50	5.00		6.50	5.00	4.00	--	
14,100-18,000	5.50	6.00	6.33	4.00		5.33	--	--	--	
18,100 and over	6.00	--	--	6.00		--	--	4.00	--	
Mean	5.88	5.06	5.20	4.50	5.16	5.30	4.75	5.12	4.52	4.92
1963 mean	5.45	5.33	5.27	5.19	5.32	4.76	4.69	4.39	4.81	4.80

Table 24. Mean scores for participation in Farm Bureau

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	2.38	2.00	2.19
	Nonowner	1.82	1.72	1.77
	Both	2.10	1.86	1.98
1949-1954	Owner	1.68	1.52	1.60
	Nonowner	1.38	1.28	1.33
	Both	1.53	1.40	1.46
Both periods	Owner	2.03	1.76	1.90
	Nonowner	1.60	1.50	1.55
	Both	1.82	1.63	1.72

a mean participation score among those in the first period of graduation of 2.10 contrasted to a score of 1.86 for those in the similar classification of the nonvocational agriculture graduates. Also, the vocational agriculture graduates who graduated during the second period of graduation had a higher mean participation score of 1.53 than the counterparts in the nonvocational agraiculture group who scored 1.40. These data also illustrate that the first period graduates had higher mean participation scores than those in the second period of graduation. This may be due to the better establishment of the graduates as well as more maturity. It should be noted that the vocational agriculture group outscored the nonvocational agriculture group in all of the mean participation scores reported in Table 24.

The F value of 12.20 presented in Table 25 for the comparison of ownership status of the parents indicates a significant difference

Table 25. Analysis of variance for participation in Farm Bureau

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F
Vocational agriculture status	1	2.74	2.74	3.51
Ownership status	1	9.52	9.52	12.20**
Graduation period	1	21.22	21.22	27.21**
Vocational agriculture x Ownership status	1	.58	.58	.74
Vocational agriculture x Graduation period	1	.24	.24	.31
Ownership status x Graduation period	1	.45	.45	.58
Vocational agriculture x Ownership status x Graduation period	1	1.51	1.51	1.94
Within	312	243.30	.78	
Totals	319	279.56		

**Significant at the one percent level.

at the one percent level in favor of the graduates whose parents were owners rather than nonowners.

Another F value of 27.21 is shown in Table 25 for the comparison of first period graduation versus second period graduation, and indicates a highly significant difference in favor of the first period graduates. First period graduates seem to have a much better opportunity and need to participate in the Farm Bureau Organization.

Table 26. Mean scores for participation in National Farmers Organization

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	1.50	1.30	1.40
	Nonowner	1.38	1.38	1.38
	Both	1.44	1.34	1.39
1949-1954	Owner	1.38	1.22	1.30
	Nonowner	1.10	1.22	1.16
	Both	1.24	1.22	1.23
Both periods	Owner	1.44	1.26	1.35
	Nonowner	1.24	1.30	1.27
	Both	1.34	1.28	1.31

The F value of 3.51 for the comparison of vocational agriculture and nonvocational agriculture graduates shown in Table 25 approaches significance. Mean scores shown in Table 24 indicate that this difference is in favor of the vocational agriculture graduates in the extent of participation in the Farm Bureau Organization. It may be that training in vocational agriculture enabled the vocational agriculture graduates to appreciate the importance of farm organizations in contributing to the welfare of farmers. Information concerning the work of farm organizations obtained through vocational agriculture programs and experience gained in the Future Farmers of America may have stimulated the desire of the vocational agriculture graduates to become active members of such organizations.

Since none of the graduates in this study had an opportunity to participate in the Grange, the scores were not charted. The graduates

in this study showed very slight membership in the Farmers Union. Therefore, those data were also insignificant and were not tabled.

Data in Table 26 show the mean scores of participation in the National Farmers Organization (N. F. O.). The mean score for the vocational agriculture graduates is 1.34, as compared with the mean score of the nonvocational agriculture graduates of 1.28. Likewise, the first period graduates had higher mean scores than the second period graduates, with scores of 1.46 and 1.24 respectively. Among all of the graduates, those graduates whose parents were owners of the home farm had slightly higher mean participation scores than those whose parents were nonowners. Those in the owner status had a mean participation score of 1.35 in comparison with the 1.27 mean participation score of those who were classified as nonowners.

A test of significance for participation in the N. F. O. revealed no significant difference in the extent of participation in this group among farmers who graduated from vocational agriculture high schools or nonvocational agriculture high schools and during the 1943-1948 period and those who graduated during the 1949-1954 period.

The results of totaling the mean scores for participation in farm organizations are presented in Table 27. The overall mean participation scores in farm organizations were higher for those who graduated from the vocational agriculture schools than those who did not. This table also indicates that the graduates from the first period had higher mean participation scores in farm organizations than those

Table 27. Mean scores for participation in farm organizations

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	5.88	5.30	5.59
	Nonowner	5.20	5.12	5.16
	Both	5.54	5.21	5.38
1949-1954	Owner	5.05	4.75	4.90
	Nonowner	4.50	4.52	4.51
	Both	4.78	4.64	4.71
Both periods	Owner	5.46	5.02	5.24
	Nonowner	4.85	4.82	4.84
	Both	5.16	4.92	5.04

who graduated during the second period.

A test of significance for participation in the farm organizations revealed an F value of 6.44 when comparing the graduation periods, which was significant at the five percent level.

Farmers' Cooperatives

Mean participation scores in farmers' cooperatives as related to different background data are shown in Tables 28 through 38. Group mean scores of 1.57 for the vocational agriculture graduates and 1.53 for the nonvocational agriculture graduates indicate a slight advantage in favor of the vocational agriculture graduates in the extent of participation in farmers' cooperatives. For comparison, the 1963 group mean scores of 1.86 for the vocational agriculture graduates and 1.81 for the non-

vocational agriculture graduates also indicate a slight advantage in favor of the vocational agriculture graduates in the extent of participation in farmers' cooperatives. Mean participation scores in farmers' cooperatives appear to have increased since the original data were collected. As shown by the 1963 group mean, the vocational agriculture group increased in mean participation scores in farmers' cooperatives by .29; whereas the nonvocational agriculture group increased .28. It should be noted that the highest 1963 mean score of 2.00 was among the vocational agriculture graduates who graduated during the first period and whose parents were classified as nonowners. In the nonvocational agriculture group, the highest 1963 mean score of 2.00 was recorded by the second period graduates whose parents were classified as nonowners. In both groups the highest 1963 mean scores were held by graduates whose parents were nonowners. These data also reveal that when the original data mean and the 1963 means are compared, the second period graduates whose parents were nonowners in both school classifications made the highest increase in mean participation scores in farmers' cooperatives. The designated vocational agriculture group increased .41 as compared with the designated nonvocational agriculture group's increase of .55. This may be due to a slower start by those graduates who graduated during the latter period and whose parents were nonowner of the home farm; since the original data were collected perhaps they have become better established and are participating more in cooperative organizations.

Table 28 shows information regarding participation scores in farmers' cooperatives as related to size of home farm. A closer

Table 28. Mean participation scores in farmers' cooperatives as related to size of home farm

Range in acres	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1-80	1.00	1.00	2.00	--		2.00	1.00	1.67	2.00	
81-120	2.67	1.20	1.50	1.00		1.20	1.80	1.00	1.50	
121-160	1.57	1.50	1.56	1.22		1.82	1.30	2.17	1.45	
161-200	1.50	2.00	1.80	1.42		1.71	1.43	1.60	1.56	
201-240	1.86	1.50	2.12	1.33		1.80	1.50	1.75	1.40	
241-280	1.67	1.25	1.50	1.00		2.20	1.00	1.50	1.00	
281-320	2.50	1.50	1.80	1.25		1.33	1.20	1.38	1.50	
321-360	1.00	--	--	1.33		1.50	1.00	1.67	1.00	
361-400	1.33	2.00	2.00	--		1.00	1.50	1.00	--	
401 or more	1.60	1.50	1.00	1.33		--	1.33	1.00	1.33	
Mean	1.72	1.52	1.75	1.28	1.57	1.70	1.35	1.62	1.45	1.53
1963 mean	1.81	1.86	2.00	1.69	1.86	1.84	1.63	1.67	2.00	1.81

investigation of these data indicates that there is very little relationship of mean participation scores in farmers' cooperatives when related to the size of the home farm.

It can be seen by data in Table 29 that mean participation scores in farmers' cooperatives tend to increase as the number of years farmed increases. This appears to be the main reason why in all classifications first period graduates had higher mean scores than the second period graduates. This also appears to explain why the mean participation scores of the second period graduates seem to level off with the first period graduates in the 1963 data.

Mean participation scores in farmers' cooperatives as related to number of years attended college are given in Table 30. It appears that the mean participation scores have a tendency to increase as the graduates gain more college experience. The vocational agriculture group and the nonvocational agriculture group appear to increase at approximately the same rate in mean participation scores in farmers' cooperatives when related to number of years attended college.

As seen in Table 31, mean participation scores in farmers' cooperatives are related to farming status. It appears that in both the vocational agriculture group and the nonvocational group the mean participation scores in farmers' cooperatives have a tendency to drop slightly after the first status of working without definite wages; gradually increasing through the livestock share lease status; then having a tendency to drop off slightly and level off for the rest of the status groups. The mean participation scores in farmers' cooperatives are quite small

Table 31. Mean participation scores in farmers' cooperatives as related to farming status

Status	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Without definite wages	1.00	1.20	--	1.33		--	1.18	2.00	1.14	
With definite wages	1.00	1.00	1.00	1.00		--	1.33	1.00	1.25	
With or without wages plus a share of the profits	1.00	1.20	--	1.18		1.00	1.40	1.00	1.43	
Income sharing agreement or partnership	1.75	1.75	1.75	1.50		1.67	1.28	2.50	1.00	
Livestock share lease	1.75	2.00	1.67	1.28		1.92	1.57	1.70	1.86	
Crop share lease	2.00	1.22	1.65	1.42		1.70	1.43	1.64	1.60	
Cash lease	1.00	1.00	2.60	1.00		1.67	--	1.00	--	
Part owner-operator	--	--	--	--		2.00	--	2.00	--	
Owner-operator	1.50	--	--	--		1.00	--	2.00	--	
Mean	1.72	1.52	1.75	1.28	1.57	1.70	1.35	1.62	1.45	1.53
1963 mean	1.81	1.86	2.00	1.69	1.86	1.84	1.63	1.67	2.00	1.81

when compared with the first three status groups, which include working without definite wages, working with definite wages, and working with or without wages plus a share of the profits of one or more livestock or crop enterprises. Even though the scores were small for both groups, the nonvocational agriculture group had slightly higher participation scores in these three status groups. The largest mean participation scores in farmers' cooperatives appear to be in two status groups. They are: the income-sharing agreement or partnership in the entire farm business status; and the livestock share lease status.

A definite trend in mean participation scores in farmers' cooperatives when related to farm management practices in farm records is presented in Table 32. In the vocational agriculture group, it appears that as the extent to which the approved farm management practices in farm records increases, the mean participation scores also increase. However, in the nonvocational agriculture group, the scores seem to increase to the "seldom" category of extent the practices are used, then drop off some and level off. Perhaps the advantage that the vocational agriculture graduates display in Table 32 is due in part to the training that these graduates had while attending high school. In the vocational agriculture program, such practices as "use of farm records in planning and managing cropping systems", "use of farm records in planning and managing livestock programs",and "use of farm records in making use of labor, machinery and power" are stressed.

As shown in Table 33, the mean participation scores in farmers'

Table 32. Mean participation scores in farmers' cooperatives as related to farm management practices in farm records

Extent used	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Always	1.65	1.76	1.89	1.42		1.52	1.46	1.45	1.44	
Usually	1.81	1.47	1.63	1.16		2.05	1.42	1.59	1.55	
Frequently	1.94	1.11	1.64	1.10		2.00	1.07	1.41	1.65	
Seldom	1.38	1.27	1.45	1.60		1.89	1.67	2.25	1.54	
Never	1.89	1.27	1.88	1.05		1.50	1.42	1.74	1.14	
Does not apply	--	--	--	2.00		1.00	1.00	2.00	1.60	
Mean	1.72	1.52	1.75	1.28	1.57	1.70	1.35	1.62	1.45	1.53
1963 mean	1.81	1.86	2.00	1.69	1.86	1.84	1.63	1.67	2.00	1.81

Table 33. Mean participation scores in farmers' cooperatives as related to farm production and management practices used

Extent used	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Always	1.82	1.65	1.83	1.31		1.66	1.46	1.66	1.49	
Usually	1.79	1.45	1.66	1.25		1.88	1.48	1.63	1.43	
Frequently	1.81	1.50	1.65	1.28		1.93	1.16	1.48	1.46	
Seldom	1.70	1.45	1.75	1.24		1.74	1.24	1.66	1.28	
Never	1.82	1.40	1.90	1.26		1.57	1.42	1.55	1.46	
Does not apply	1.59	1.33	1.65	1.21		1.65	1.29	1.85	1.44	
Mean	1.72	1.52	1.75	1.28	1.57	1.70	1.35	1.62	1.45	1.53
1963 mean	1.81	1.86	2.00	1.69	1.86	1.84	1.63	1.67	2.00	1.81

cooperatives are related to farm production and management practices used. The mean participation scores in farmers' cooperatives of the vocational agriculture group have a tendency to increase as the extent of farm production and management practices used increases. The mean participation scores of the nonvocational agriculture group also increase; however, at a somewhat slower rate. As presented by data in Table 33, those graduates who graduated during the earlier period outscore the graduates in the second period. This is true both in the vocational agriculture group and the nonvocational agriculture group. It should be noted that in the category of the practices always being used, the vocational agriculture group outscored the nonvocational agriculture group.

As seen in Table 34, mean participation scores in farmers' cooperatives are related to type of records used. The highest mean participation scores in farmers' cooperatives for the vocational agriculture group appear to be in the second category, which is "receipts, expenditures and depreciation". Relatively high participation scores were also reported by the same group in the category of "no records". The participation scores for the vocational agriculture group in the three higher types of records used drop off slightly, then level out for all three categories. Mean participation scores in farmers' cooperatives, as reported by the nonvocational agriculture group, appear to be the highest for the "none" category of type of record used, then decrease in scope as the type of records used increases in intensity.

Table 34. Mean participation scores in farmers' cooperatives as related to type of records used

Type	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
None	2.00	1.25	2.00	2.00		2.00	1.50	1.67	1.33	
Receipts, expenditures and depreciation	1.80	1.00	2.67	2.00		2.00	1.33	1.60	1.33	
Receipts, expenditures and depreciation plus one other	1.80	1.38	1.58	1.36		1.77	1.33	1.75	1.45	
Receipts, expenditures and depreciation plus two others	1.75	1.69	1.80	1.12		1.50	1.33	1.62	1.47	
Receipts, expenditures and depreciation plus net worth, analysis and inventories	1.62	1.54	1.62	1.30		1.60	1.33	1.43	1.50	
Mean	1.72	1.52	1.75	1.28	1.57	1.70	1.35	1.62	1.45	1.53
1963 mean	1.81	1.86	2.00	1.69	1.86	1.84	1.63	1.67	2.00	1.81

These data indicate that the vocational agriculture graduates are using more complicated records and at the same time maintaining their participation in farmers' cooperatives; whereas, the nonvocational agriculture group tends to drop off in participation in farmers' cooperatives as the more complicated farm records are used.

As shown in Table 35, the mean participation scores in farmers' cooperatives are related to acres farmed. There appears to be no trend in the mean participation scores in farmers' cooperatives when related to the acres farmed. In the main, the vocational agriculture group has slightly higher mean participation scores than the nonvocational agriculture group.

Table 36 shows the mean participation scores in farmers' cooperatives as related to total gross products. Table 36 illustrates that those graduates who were in the $100-$2,000 classification had considerably lower mean participation scores than most of the graduates in the other ranges of dollar classifications. The group of graduates in Table 36 that has the highest mean score is that group of graduates in the first graduation period whose parents are in the ownership status and graduates of the vocational agriculture schools, in the $10,000-$12,000 total gross product category. In the vocational agriculture group, the mean participation scores appear to increase quite definitely when the graduate is in the $4,100-$6,000 category or higher. In comparison, the nonvocational agriculture group appears to start participating in farmers' cooperatives noticeably at the $2,100-$4,000 category and higher.

Table 35. Mean participation scores in farmers' cooperatives as related to acres farmed

Range in acres	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1-80	--	--	2.00	1.50		1.33	--	1.33	1.50	
81-120	--	1.60	1.50	1.00		1.88	1.57	1.50	1.50	
121-160	1.44	1.33	1.71	1.40		1.69	1.42	1.62	1.69	
161-200	2.12	2.00	1.57	1.50		1.67	1.17	1.50	1.40	
201-240	1.75	1.33	2.14	1.17		1.75	1.67	2.14	1.33	
241-280	1.50	1.00	1.40	1.00		2.00	1.00	2.00	1.00	
281-320	2.33	1.67	2.00	1.20		1.50	1.50	1.40	1.00	
321-420	1.00	1.50	--	2.00		1.50	1.00	1.33	1.33	
421-520	2.00	1.67	2.00	1.00		--	2.00	2.00	--	
521 and over	1.50	2.00	--	--		--	--	--	1.33	
Mean	1.72	1.52	1.75	1.28	1.57	1.70	1.35	1.62	1.45	1.53
1963 mean	1.81	1.86	2.00	1.69	1.86	1.84	1.63	1.67	2.00	1.81

Table 36. Mean participation scores in farmers' cooperatives as related to total gross product

Range in dollars	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
100-2,000	--	1.00	--	1.17		1.00	1.33	1.00	1.50	
2,100-4,000	2.00	1.25	1.00	1.12		1.62	1.67	1.43	1.50	
4,100-6,000	2.25	1.75	1.64	1.27		2.00	1.17	1.80	1.38	
6,100-8,000	1.82	1.80	1.56	1.22		1.86	1.43	1.75	1.62	
8,100-10,000	1.42	1.75	1.86	1.50		1.33	1.33	1.62	1.00	
10,100-12,000	3.00	1.00	2.40	2.00		1.60	1.00	1.50	2.00	
12,100-14,000	1.00	1.00	2.00	2.00		1.50	1.50	2.00	--	
14,100-18,000	2.00	1.50	1.67	1.00		1.67	--	--	--	
18,100 and over	1.40	--	--	2.00		--	--	2.00	--	
Mean	1.72	1.52	1.75	1.28	1.57	1.70	1.35	1.62	1.45	1.53
1963 mean	1.81	1.86	2.00	1.69	1.86	1.84	1.63	1.67	2.00	1.81

Table 37. Mean scores for participation in farmers' cooperatives

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	1.72	1.70	1.71
	Nonowner	1.75	1.62	1.68
	Both	1.74	1.66	1.70
1949-1954	Owner	1.52	1.35	1.44
	Nonowner	1.28	1.45	1.36
	Both	1.40	1.40	1.40
Both periods	Owner	1.62	1.52	1.57
	Nonowner	1.52	1.54	1.53
	Both	1.57	1.53	1.55

Mean scores for participation in farmers' cooperatives are shown in Table 37. The most noticeable data in Table 37 are the comparisons of the group mean score of 1.70 for the first period graduates as compared with the group mean score of 1.40 for the second period graduates.

A test of significance for the difference in participation in farmers' cooperatives between the two groups of graduates is shown in Table 38. The 320 graduates in the sample were compared on the basis of type of school, period of graduation, and ownership status of parent. As shown in Table 38, the F value of .24 for vocational agriculture status and the F value of .39 for ownership status indicated that the difference was not significant. However, the F value of 15.53 for the graduation period indicated a highly significant difference existed. By examining the mean scores in Table 37, it can be determined that the significant difference is in favor of the first period graduates over the

Table 38. Analysis of variance for participation in farmers' cooperatives

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F
Vocational agriculture status	1	0.11	0.11	.24
Ownership status	1	0.18	0.18	.39
Graduation period	1	7.08	7.08	15.53**
Vocational agriculture x Ownership status	1	0.27	0.27	.59
Vocational agriculture x Graduation period	1	0.12	0.12	.26
Ownership status x Graduation period	1	0.10	0.10	.22
Vocational agriculture x Ownership status x Graduation period	1	0.94	0.94	2.06
Within	312	142.40	.456	
Totals	319	151.20		

second period graduates.

Farm Service Organizations

The group of farm service organizations included: farmers' record association, a livestock, poultry, breed or dairy herd association, a crop improvement association, the A. C. P. and the S. C. S. Tables 39 through 51 show information regarding mean participation scores in farm

service organizations as related to size of home farm, number of acres farmed, number of years attended college, farming status, farm management practices in farm records, farm production management practices, type of records used, acres farmed and total gross product. Mean participation scores in farm service organizations for the eight different classifications of graduates are shown in Tables 39 through 47. These tables indicate that the vocational agriculture group had a group mean of 6.09 as compared with the nonvocational agriculture group mean of 5.98. All of the mean scores of the different classifications of vocational agriculture graduates exceed the same classifications in the nonvocational agriculture group except for the second period graduates whose parents were in the nonowner status. In this group, the nonvocational agriculture graduates had a mean score of 5.75 as compared with the vocational agriculture mean score of 5.55. On further investigation of the means disclosed in Tables 39 through 47, it is found that the 1963 group mean of 5.85 for the vocational agriculture group exceeds the group mean of 5.69 for the nonvocational agriculture group. These data point out that in the case of both groups, the 1963 group mean indicates a slightly lower mean participation score in farm service organizations.

Mean participation scores in farm service organizations as related to size of home farm are exhibited in Table 39. The data in Table 39 disclose no definite trends. In the vocational agriculture group, there is a slight increase in mean participation scores in farm service organizations as the size of home farm increases. A closer in-

Table 39. Mean participation scores in farm service organizations as related to size of home farm

Acres	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1-80	6.00	6.00	6.00	--		6.00	5.00	5.67	6.00	
81-120	5.67	5.60	5.50	5.00		5.40	5.40	5.00	5.00	
121-160	6.28	6.30	6.33	5.11		7.36	5.40	6.83	6.09	
161-200	6.75	5.60	6.80	6.28		5.71	5.86	6.00	5.89	
201-240	6.71	5.00	5.62	5.56		5.80	5.00	6.75	6.20	
241-280	6.00	6.50	6.50	5.53		6.80	5.50	5.25	5.00	
281-320	7.50	5.83	5.80	5.75		6.00	6.20	5.62	5.17	
321-360	5.00	--	--	5.67		5.50	6.00	7.00	5.50	
361-400	6.67	7.33	8.00	--		10.00	6.50	5.00	--	
401 or more	6.60	6.50	8.00	5.33		--	5.33	5.00	5.33	
Mean	6.45	6.02	6.32	5.55	6.09	6.40	5.65	6.10	5.75	5.98
Group mean	5.82	5.48	6.34	5.56	5.85	6.00	5.44	5.34	5.81	5.69

vestigation reveals that the mean participation scores of those graduates from vocational agriculture schools and from home farms of 1 to 160 acres had slightly smaller mean scores than graduates in the same group but in the 321 or more acres in the home farm category. A check of the nonvocational agriculture data for the same type of comparison gives somewhat the same results, with a smaller difference in the means.

As exhibited in Table 40, mean participation scores in farm service organizations are related to number of years farmed. The mean participation scores in farm service organizations recorded by the vocational agriculture graduates seem to have a tendency to increase slightly with years of experience. Mean participation scores appear to increase until the graduates reach six years of farming experience, then they seem to level off and come up somewhat during the twelfth year. In the nonvocational agriculture group, the mean participation scores in farm service organizations have a tendency to increase also. They appear to reach a peak at about the tenth year farmed, then dropping off a little more sharply than the vocational agriculture group.

Table 41 shows the mean participation scores in farm service organizations as related to number of years attended college. A close investigation of the data indicates that the mean participation scores in farm service organizations tend to increase as the graduates receive more college education. This is true among the vocational agriculture graduates as well as the nonvocational agriculture graduates.

The mean participation scores in farm service organizations as

Table 40. Mean participation scores in farm service organizations as related to number of years farmed

Years	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1	5.00	5.50	5.00	5.50		10.00	5.00	--	5.00	
2	--	5.67	--	5.28		--	5.12	--	5.33	
3	5.00	6.30	--	5.38		7.00	5.38	5.00	5.82	
4	8.00	6.67	5.67	6.75		5.00	5.78	7.00	5.89	
5	6.33	5.40	6.00	5.17		6.33	5.71	7.50	6.50	
6	--	7.00	7.80	6.50		5.83	6.75	5.50	--	
7	7.00	6.25	7.00	5.00		6.25	6.50	5.20	6.00	
8	6.00	--	6.00	--		7.33	--	5.44	--	
9	6.86	--	5.67	--		6.40	--	7.25	--	
10	7.17	--	5.50	--		7.80	--	5.60	--	
11	6.00	--	5.83	--		5.50	--	6.00	--	
12	5.89	--	8.00	--		5.00	--	7.00	--	
Mean	6.45	6.02	6.32	5.55	6.09	6.40	5.65	6.10	5.75	
1963 mean	5.82	5.48	6.34	5.56	5.85	6.00	5.44	5.34	5.69	

Table 41. Mean participation scores in farm service organizations as related to number of years attended college

Years	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
None	6.42	5.97	6.30	5.46		6.35	5.68	5.95	5.75	
1	5.33	6.50	6.50	7.00		7.10	5.60	7.50	5.75	
2	7.00	--	6.57	5.00		7.25	5.40	5.75	6.00	
3	6.00	--	--	--		7.00	--	8.33	--	
4	8.50	--	--	--		5.00	--	9.00	--	
Mean	6.45	6.02	6.32	5.55	6.09	6.40	5.65	6.10	5.75	5.98
1963 mean	5.82	5.48	6.34	5.56	5.85	6.00	5.44	5.34	5.81	5.69

related to farming status are illustrated in Table 42. The mean participation scores of the graduates in both the vocational agriculture and the nonvocational agriculture groups have a tendency to increase slightly as the farming status of the graduates increases.

When the mean participation scores in farm service organizations are related to farm management practices in farm records, definite trends exist. These are shown in Table 43. As the extent to which farm management practices in farm records were used increased, the mean participation scores in farm service organizations had a tendency to also increase. The nonvocational agriculture group's mean participation scores also tended to increase as the category of extent used increased in rank. However, the nonvocational agriculture appeared to have the highest mean participation scores in the "seldom used" category as compared with the vocational agriculture group, which had the apparent highest mean participation scores in the "always used" category. On closer investigation, it appears that the first period graduates of the nonvocational agriculture group had a tendency to level off in their mean participation scores in farm service organizations prior to reaching the "always" category of extent the practices were used.

Table 44 shows the mean participation scores in farm service organizations as related to farm production and management practices used. In the main, both the vocational agriculture graduates and the nonvocational agriculture graduates increased in mean participation scores as the extent to which farm production and management practices were used increased.

Table 42. Mean participation scores in farm service organizations as related to farming status

Status	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1949	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Without definite wages	5.00	5.80	--	5.33		--	5.00	5.00	6.00	
With definite wages	5.00	5.00	5.00	5.00		--	5.33	5.00	5.00	
With or without wages plus a share of the profits	6.00	5.25	--	5.45		5.00	5.80	5.00	5.71	
Income sharing agreement or partnership	8.50	7.25	6.00	5.50		5.33	5.71	7.25	5.00	
Livestock share lease	6.31	6.09	6.11	5.71		6.25	5.86	5.90	6.43	
Crop share lease	6.23	5.67	6.55	5.75		7.12	6.43	6.64	5.80	
Cash lease	6.00	5.00	6.60	6.00		5.67	--	5.00	--	
Part owner-operator	--	--	--	--		7.00	--	6.00	--	
Owner-operator	7.00	--	--	--		5.00	--	7.00	--	
Mean	6.45	6.02	6.32	5.55	6.09	6.40	5.65	6.10	5.75	5.98
1963 mean	5.82	5.48	6.34	5.56	5.85	6.00	5.44	5.34	5.81	5.69

Table 43. Mean participation scores in farm service organizations as related to farm management practices in farm records

Extent used	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Always	6.62	6.16	6.29	5.80		6.35	6.08	6.06	5.92	
Usually	6.46	6.18	6.31	5.32		7.05	5.71	6.22	5.61	
Frequently	6.41	5.89	6.54	5.47		6.67	5.48	5.41	6.10	
Seldom	5.75	6.00	6.09	5.00		6.78	5.67	7.38	5.73	
Never	5.89	5.33	6.62	5.37		5.56	5.42	6.19	5.36	
Does not apply	--	--	--	6.00		5.25	5.00	5.25	6.60	
Mean	6.45	6.02	6.32	5.55	6.09	6.40	5.65	6.10	5.75	5.98
1963 mean	5.82	5.48	6.34	5.56	5.85	6.00	5.44	5.34	5.81	5.69

Table 44. Mean participation scores in farm service organizations as related to farm production and management practices used

Extent used	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group
Always	6.42	6.14	6.26	5.66		6.50	5.76	6.21	5.84	
Usually	6.68	6.23	6.27	5.51		6.44	5.64	6.09	5.65	
Frequently	6.35	6.17	6.46	5.30		6.65	5.57	5.56	5.77	
Seldom	6.66	6.02	6.13	5.31		6.29	5.73	6.41	5.77	
Never	6.14	5.66	6.32	5.56		6.39	5.52	5.90	5.79	
Does not apply	6.34	5.51	6.31	5.34		6.55	5.59	6.22	5.55	
Mean	6.45	6.02	6.32	5.55	6.09	6.40	5.65	6.10	5.75	5.98
1963 mean	5.82	5.48	6.34	5.56	5.85	6.00	5.44	5.34	5.81	5.69

The mean participation scores in farm service organizations as related to type of records used are presented in Table 45. These data reveal that both high school groups have a tendency to increase in mean participation scores as the better type of farm records is used. Table 45 also reveals that a group of vocational agriculture graduates who graduated during the first period and whose parents were in the nonowner classification had the highest mean score in the category of "no farm records". This group had a tendency to influence participation scores of all vocational agriculture graduates in the "no farm record" category. A close investigation of Table 45 reveals that those graduates who were using the highest classification of records used had higher mean participation scores than those graduates who were using the lower classifications of records. In the vocational agriculture group, the first period graduates whose parents were owners had a mean participation score of 5.00 in the basic type of records, namely "receipts, expenditures and depreciation"; whereas the graduates in the same classification that were using the highest type of records, namely "receipts, expenditures and depreciation plus a net worth statement and analysis and inventories", had a mean participation score of 6.81. A like comparison of these two types of records kept throughout the other set of classifications of graduates gives the same findings, except for second period nonvocational agriculture graduates whose parents were nonowners. In this case, those graduates who were using the basic type of records had a mean participation

Table 45. Mean participation scores in farm service organizations as related to types of records used

Type	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
None	6.00	5.50	7.50	6.00		6.00	6.00	5.67	5.67	
Receipts, expenditures and depreciation	5.00	5.00	5.67	5.00		6.00	5.33	5.40	7.00	
Receipts, expenditures and depreciation plus one other	6.50	6.00	6.42	5.36		6.23	5.58	6.42	5.45	
Receipts, expenditures and depreciation plus two others	6.62	5.81	6.70	5.41		6.20	5.60	6.15	5.53	
Receipts, expenditures and depreciation plus net worth, analysis and inventories	6.81	6.64	5.92	6.00		7.10	5.83	6.00	6.12	
Mean	6.45	6.02	6.32	5.55	6.09	6.40	5.65	6.10	5.75	5.98
1963 mean	5.82	5.48	6.34	5.56	5.85	6.00	5.44	5.34	5.81	5.69

score of 7.00, as compared with the mean participation score of 6.12 recorded by the graduates in the same classification who were using more complicated types of records.

A presentation of the mean participation scores in farm service organizations as related to acres farmed is shown in Table 46. The mean participation scores in farm service organizations appear to have no really definite relationship with the number of acres farmed. The vocational agriculture group had slightly higher mean participation scores than the nonvocational agriculture group when the acres farmed were 421 and over.

As seen in Table 47, the mean participation scores in farm service organizations are related to total gross product. These data indicate that the mean participation scores in farm service organizations recorded by the vocational agriculture group definitely have a tendency to increase as the amount in total gross product increases. For comparison, the mean participation scores in farm service organizations reported by the nonvocational agriculture graduates also increased as the total gross product increased, until it reached the $10,000-$12,000 bracket, at which point the mean participation scores started falling off.

Data in Table 47 indicate that more vocational agriculture graduates are receiving higher gross products and at the same time are recording higher mean participation scores in farm service organizations.

In Table 48, mean scores for participation in livestock, poultry, breed or dairy herd associations are recorded. As seen in Table 48,

Table 46. Mean participation scores in farm service organizations as related to acres farmed

Range in acres	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1-80	--	--	7.50	5.50		5.67	--	5.33	5.50	
81-120	--	5.80	5.50	5.28		6.25	5.43	8.00	5.25	
121-160	6.22	5.80	5.78	5.90		7.38	5.58	5.62	5.92	
161-200	6.88	5.80	6.14	5.25		5.33	5.67	6.33	6.00	
201-240	6.00	5.33	6.43	5.67		6.00	5.33	6.86	5.17	
241-280	6.25	5.50	8.20	5.00		6.00	7.00	6.50	5.00	
281-320	6.00	6.00	5.50	5.60		7.00	6.50	5.80	6.67	
321-420	5.00	6.50	--	5.50		5.50	5.17	6.00	6.33	
421-520	6.00	7.33	6.00	5.50		--	6.00	5.00	--	
521 and over	8.50	8.00	--	--		--	--	--	5.33	
Mean	6.45	6.02	6.32	5.55	6.09	6.40	5.65	6.10	5.75	5.98
1963 mean	5.82	5.48	6.34	5.56	5.85	6.00	5.44	5.34	5.81	5.69

Table 47. Mean participation scores in farm service organizations as related to total gross product

Range in dollars	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
100-2,000	--	5.00	--	5.33		5.00	6.00	5.00	5.25	
2,100-4,000	6.00	5.50	7.00	5.62		6.38	6.00	5.71	5.50	
4,100-6,000	7.50	6.00	6.35	4.91		6.20	5.25	5.60	6.06	
6,100-8,000	6.27	6.00	6.11	5.22		6.00	5.43	5.92	5.62	
8,100-10,000	5.58	7.25	5.50	7.50		5.33	5.78	6.75	5.33	
10,100-12,000	6.00	5.33	6.40	6.00		8.40	6.00	7.25	7.00	
12,100-14,000	7.00	7.00	5.50	8.00		7.50	6.50	7.00	--	
14,100-18,000	7.00	6.50	5.67	6.00		6.00	--	--	--	
18,100 and over	8.00	--	--	5.00		--	--	5.00	--	
Mean	6.45	6.02	6.32	5.55	6.09	6.40	5.65	6.10	5.75	5.98
1963 mean	5.82	5.48	6.34	5.56	5.85	6.00	5.44	5.34	5.81	5.69

Table 48. Mean scores for participation in livestock, poultry, breed or dairy herd associations

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	1.45	1.25	1.35
	Nonowner	1.62	1.38	1.50
	Both	1.54	1.32	1.43
1949-1954	Owner	1.25	1.12	1.18
	Nonowner	1.25	1.12	1.18
	Both	1.25	1.12	1.18
Both periods	Owner	1.35	1.18	1.26
	Nonowner	1.44	1.25	1.34
	Both	1.40	1.22	1.30

the group mean participation scores for the vocational agriculture group was 1.40, as compared with the nonvocational agriculture group score of 1.22. It is also disclosed that the group mean participation score for the first period graduates was 1.43, as compared with the second period graduates' score of 1.18. It should also be noted that the group mean scores of the owners is 1.26, compared with the group mean score of the nonowners, which was 1.34. This shows an advantage in favor of those graduates whose parents were classified as nonowners.

An analysis of variance test of the data concerning mean scores for participation in livestock, poultry, breed or dairy herd associations, as shown in Table 49, produced an F value of 3.77 for the vocational agriculture status. This value approached significance. A nonsignificant F value of .69 for ownership status is shown in Table 49.

Table 49. Analysis of variance for participation in livestock, poultry, breed or dairy herd associations

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F
Vocational agriculture status	1	2.44	2.44	3.77
Ownership status	1	.45	.45	.69
Graduation period	1	4.58	4.58	7.07**
Vocational agriculture x Ownership status	1	.02	.02	.03
Vocational agriculture x Graduation period	1	2.54	2.54	3.91*
Ownership status x Graduation period	1	.05	.05	.08
Vocational agriculture x Ownership status x Graduation period	1	.66	.66	1.02
Within	312	202.29	.648	
Totals	319	213.03		

*Significant at the five percent level.

**Significant at the one percent level.

An F value of 7.07 for the graduation period showed a significant difference at the one percent level held in favor of the 1943-1948 graduates. A significant F value was obtained in the analysis of one of the interactions of the classifications of the graduates. An F value of 3.91 obtained for vocational agriculture status x graduation period

Table 51. Analysis of variance for participation in the Agricultural Conservation Program

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F
Vocational agriculture status	1	1.15	1.15	2.26
Ownership status	1	2.05	2.05	4.04*
Graduation period	1	11.41	11.41	22.46**
Vocational agriculture x Ownership status	1	4.88	4.88	9.61**
Vocational agriculture x Graduation period	1	3.22	3.22	6.34*
Ownership status x Graduation period	1	.91	.91	1.79
Vocational agriculture x Ownership status x Graduation period	1	1.85	1.85	3.64
Within	312	158.42	.508	
Totals	319	183.89		

*Significant at the five percent level.

**Significant at the one percent level.

classified as owners. A highly significant F value of 22.46 was revealed for those who graduated during the 1943-1948 period over the graduates of the latter period. Another F value of 9.61, significant at the one percent level, was found for the interaction of vocational agriculture x ownership status. Mean scores for the vocational agricul-

ture group indicate that the graduates whose parents were classified as owners participated in the Agricultural Conservation Program to a greater extent than the graduates whose parents were classified as nonowners. Another F value of 6.34, significant at the five percent level, was disclosed for the interaction of vocational agriculture x graduation period.

Mean scores for participation in farm service organizations are shown in Table 52. An inspection of this table reveals that the first period graduates had a mean participation score of 6.32, as compared with the second period graduates' mean score of 5.74. The mean participation score of 6.13 for those graduates whose parents were classified as owners was slightly higher than the mean participation score of 5.93 for those graduates whose parents were classified as nonowners. An analysis of variance revealed no significant differences among the mean scores in Table 52.

Table 52. Mean scores for participation in farm service organizations

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	6.45	6.40	6.42
	Nonowner	6.32	6.10	6.21
	Both	6.38	6.25	6.32
1949-1954	Owner	6.02	5.65	5.84
	Nonowner	5.55	5.75	5.65
	Both	5.78	5.70	5.74
Both periods	Owner	6.24	6.02	6.13
	Nonowner	5.94	5.92	5.93
	Both	6.09	5.97	6.03

Young and Adult Farmer Classes

The findings in this study regarding mean participation scores in young and adult farmer classes as related to other background information, are presented in Tables 53 through 66. These data reveal that the vocational agriculture graduates excel the nonvocational agriculture graduates in mean participation scores in young and adult farmer classes when compared in the different classifications. The group mean score of 2.41 reported by the vocational agriculture graduates was considerably higher than the group mean score of 2.20 for the nonvocational agriculture graduates. A check of the 1963 data included in these tables indicates that the vocational agriculture graduates have continued to participate to approximately the same extent as before. The nonvocational agriculture graduates show a significant increase in the 1963 group mean. This may be attributed to the fact that a number of the schools that did not have vocational agriculture departments at the time this study was made have installed vocational agriculture departments and the young and adult classes are now available to some of the former nonvocational agriculture graduates. Perhaps some of the nonvocational agriculture graduates are attending adult and young farmer classes in a school district where they are offered. Mean participation scores in adult and young farmer classes are related to the following: size of home farm, number of years farmed, number of years attended college, farming status, farm management practices in farm records, farm production and management practices used, type of records used, acres farmed,

and total gross product. These relationships are presented in Tables 53 through 61.

The relationship of mean participation scores in young and adult farmer classes to size of home farm is shown in Table 53. There appears to be very little relationship of mean participation scores in young and adult farmer classes when related to the different ranges in size of home farm. Apparently the size of the home farm had no influence on the graduates' participation scores in young and adult farmer classes.

Data in Table 54 indicate the mean participation scores in young and adult farmer classes as related to number of years farmed. There appears to be no direct relationship between the number of years farmed and mean participation scores in young and adult farmer classes. This may be due to the summarization of participation scores in these two classes. The young farmer class possibly attracts the younger graduates and the adult farmer class has a tendency to attract the older graduates. Therefore, it is possible that this has a tendency to even out the participation scores when compared to the number of years farmed.

The relationship of mean participation scores in young and adult farmer classes as related to number of years attended college is presented in Table 55. Very little relationship of mean participation scores in young and adult farmer classes to number of years attended college is revealed in Table 55. Apparently each additional year of college attended by high school graduates has very little influence on attendance and participation in young and adult farmer classes, after they return to the farm.

Table 53. Mean participation scores in young and adult farmer classes as related to size of home farm

Range in acres	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1-80	2.00	2.00	2.33	--		3.00	2.00	2.00	2.00	
81-120	2.33	2.80	2.00	2.00		2.00	2.40	2.00	2.00	
121-160	2.00	2.40	3.33	2.11		2.09	2.00	2.50	2.18	
161-200	2.50	2.40	2.80	3.14		2.00	2.00	2.40	2.33	
201-240	2.43	2.25	2.12	2.00		3.20	2.00	2.00	2.00	
241-280	2.67	3.00	2.25	2.33		3.00	2.00	2.00	2.00	
281-320	3.25	2.00	2.20	2.00		2.00	2.40	2.25	2.00	
321-360	2.00	--	--	2.33		2.00	2.00	2.00	2.00	
361-400	2.33	2.67	2.50	--		2.00	2.00	4.00	--	
401 or more	2.20	2.00	2.00	2.33		--	2.33	2.00	2.00	
Mean	2.38	2.42	2.52	2.30	2.41	2.32	2.12	2.22	2.12	2.20
1963 mean	2.22	2.76	2.31	2.32	2.39	2.20	2.50	2.28	2.46	2.35

Table 54. Mean participation scores in young and adult farmer classes as related to number of years farmed

Years	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1	2.00	2.00	2.00	2.50		2.00	2.00	--	2.00	
2	--	2.50	--	2.14		--	2.12	--	2.11	
3	2.00	2.60	--	2.38		2.00	2.00	2.00	2.00	
4	2.50	2.17	2.00	3.00		2.50	2.11	2.33	2.22	
5	2.67	2.20	2.00	2.00		3.67	2.28	3.00	2.33	
6	--	2.00	3.40	2.50		2.17	2.25	2.00	--	
7	3.00	2.75	2.33	2.00		2.00	2.00	2.40	2.00	
8	2.00	--	3.00	--		2.00	--	2.11	--	
9	2.43	--	2.83	--		3.00	--	2.25	--	
10	2.17	--	2.25	--		2.20	--	2.00	--	
11	2.50	--	2.17	--		2.00	--	2.50	--	
12	2.33	--	2.25	--		2.00	--	2.00	--	
Mean	2.38	2.42	2.52	2.30	2.41	2.32	2.12	2.22	2.12	2.20
1963 mean	2.22	2.76	2.31	2.32	2.39	2.20	2.50	2.28	2.46	2.35

Table 55. Mean participation scores in young and adult farmer classes as related to number of years attended college

Years	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
None	2.35	2.32	2.56	2.22		2.35	2.13	2.22	2.78	
1	2.67	3.33	2.25	3.25		2.20	2.20	2.17	2.00	
2	2.40	--	2.28	3.00		2.00	2.00	1.62	2.00	
3	3.00	--	--	--		2.00	--	2.67	--	
4	3.50	--	--	--		2.50	--	2.00	--	
Mean	2.38	2.42	2.52	2.30	2.41	2.32	2.12	2.22	2.12	2.20
1963 mean	2.22	2.76	2.31	2.32	2.39	2.20	2.50	2.28	2.46	2.35

Data in Table 56 reveal the mean participation scores in adult and young farmer classes as related to farming status. In the vocational agriculture group, the mean participation scores appear to be quite low for the first two status groups. Starting with the third status, working with or without wages plus a share of the profits of one or more livestock or crop enterprises, the mean participation scores of the vocational agriculture group appear to increase considerably and remain at about the same level through the cash lease status. The nonvocational agriculture group also have small scores compared with the first two status groups. However, they increased in mean participation scores starting with the third status, working with or without wages plus a share of the profits from one or more livestock or crop enterprises, and have a tendency to remain at about the same level through the crop share lease status.

A presentation of the mean participation scores in young and adult farmer classes as related to farm management practices in farm records is shown in Table 57. There appears to be a definite relationship among the participation scores in young and adult farmer classes when compared with the farm management practices in farm records. In both groups, the mean participation scores increase as the extent of farm management practices in farm records increases. The group of vocational agriculture graduates who appear to have the highest mean participation scores in young and adult farmer classes is composed of those who graduated in the first period, are sons of parents who were nonowners and who were classified in the "always" category of the extent

Table 56. Mean participation scores in young and adult farmer classes as related to farming status

Status	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Without definite wages	2.00	2.40	--	2.00		--	2.09	2.00	2.00	
With definite wages	2.00	2.50	2.00	2.00		--	2.33	2.00	2.00	
With or without wages plus a share of the profits	2.00	3.00	--	2.18		3.00	2.00	3.00	2.14	
Income sharing agreement or partnership	2.75	2.00	2.50	2.50		3.33	2.14	2.50	2.00	
Livestock share lease	2.31	2.54	2.67	2.43		2.16	2.14	2.00	2.00	
Crop share lease	2.46	2.44	2.40	2.50		2.29	2.14	2.36	2.40	
Cash lease	2.50	2.00	3.00	2.00		2.33	--	2.00	--	
Part owner-operator	--	--	--	--		2.00	--	2.00	--	
Owner-operator	2.00	--	--	--		2.00	--	2.00	--	
Mean	2.38	2.42	2.52	2.30	2.41	2.32	2.12	2.22	2.12	2.20
1963 mean	2.22	2.76	2.31	2.32	2.39	2.20	2.50	2.28	2.46	2.35

Table 57. Mean participation scores in young and adult farmer classes as related to farm management practices in farm records

Extent used	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Always	2.38	2.63	2.65	2.32		2.48	2.15	2.30	2.24	
Usually	2.38	2.44	2.48	2.08		2.25	2.13	2.15	2.00	
Frequently	2.41	2.00	2.54	2.47		2.48	2.04	2.12	2.10	
Seldom	2.00	2.09	2.27	2.60		2.00	2.00	2.50	2.00	
Never	2.56	2.20	2.12	2.21		2.06	2.19	2.22	2.25	
Does not apply	--	--	--	3.00		2.00	2.00	2.00	2.00	
Mean	2.38	2.42	2.52	2.30	2.41	2.32	2.12	2.22	2.12	2.20
1963 mean	2.22	2.76	2.31	2.32	2.39	2.20	2.50	2.28	2.46	2.35

of farm records used. In comparison, the highest mean participation score achieved by the nonvocational agriculture graduates was by those who graduated during the first period, whose parents were nonowners and were classified in the "seldom" category of extent of farm records used.

The use of farm production and management practices is related to mean participation scores in young and adult farmer classes, as disclosed by data in Table 58. There is an obvious trend of increased mean participation scores in young and adult farmer classes by the vocational agriculture graduates as the use of farm production and management practices increases. On the other hand, the nonvocational agriculture graduates made very little change in mean participation scores in young and adult farmer classes as the use of farm production and management practices was increased.

As shown in Table 59, the mean participation scores in young and adult farmer classes are related to type of records used. The highest mean participation score for the vocational agriculture group appears to be in the highest type of farm records kept, which includes receipts, expenditures, and depreciation plus net worth, analysis and inventories. The nonvocational agriculture group also appears to have its highest set of mean scores in the highest possible category of records kept.

As seen in Table 60, the mean participation scores in young and adult farmer classes are related to acres farmed. Among the vocational agriculture graduates whose parents were classified as nonowners and farming 80 acres or less are the highest set of mean participation scores in young and adult farmer classes. Disregarding the 1-80 acre category

Table 58. Mean participation scores in young and adult farmer classes as related to farm production and management practices used

Extent used	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Always	2.37	2.50	2.56	2.36		2.28	2.17	2.30	2.18	
Usually	2.38	2.48	2.63	2.14		2.48	2.10	2.16	2.11	
Frequently	2.42	2.29	2.30	2.32		2.52	2.03	2.15	2.13	
Seldom	2.44	2.20	2.49	2.22		2.20	2.08	2.20	2.06	
Never	2.28	2.26	2.52	2.30		2.31	2.13	2.24	2.10	
Does not apply	2.39	2.43	2.48	2.25		2.24	2.15	2.08	2.07	
Mean	2.38	2.42	2.52	2.30	2.41	2.32	2.12	2.22	2.12	2.20
1963 mean	2.22	2.76	2.31	2.32	2.39	2.20	2.50	2.28	2.46	2.35

Table 59. Mean participation scores in young and adult farmer classes as related to type of records used

Type	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
None	2.00	2.25	2.50	3.00		2.50	2.00	2.00	2.00	
Receipts, expenditures and depreciation	2.00	2.00	2.33	2.00		2.80	2.00	2.40	2.00	
Receipts, expenditures and depreciation plus one other	2.70	2.25	2.17	2.36		2.15	2.00	2.17	2.27	
Receipts, expenditures and depreciation plus two others	2.25	2.50	2.30	2.00		2.10	2.20	2.23	2.00	
Receipts, expenditures and depreciation plus net worth, analysis and inventories	2.38	2.54	3.08	2.70		2.50	2.33	2.28	2.25	
Mean	2.38	2.42	2.52	2.30	2.41	2.32	2.12	2.22	2.12	2.20
1963 mean	2.22	2.76	2.31	2.32	2.39	2.20	2.50	2.28	2.46	2.35

in the vocational agriculture group, the mean participation scores tend to increase and level off through the 321-420 acre range. In comparison, the nonvocational agriculture graduates had a tendency to increase in mean participation scores, starting with the smaller range of acres through the 201-240 acre range, then tended to drop off somewhat. It is obvious by the data displayed in Table 60 that the vocational agriculture group had higher mean participation scores and more consistent scores than the nonvocational agriculture group.

As shown in Table 61, the mean participation scores in young and adult farmer classes are related to the total gross product. The mean participation scores recorded for the vocational agriculture group appear to steadily increase through the $8,100-$10,000 range, then tend to decrease somewhat. In comparison, the nonvocational agriculture group tends to increase in mean participation scores through the $4,100-$6,000 range, then tend to drop off somewhat and increase again in the $10,000-$12,000 range, then drop off during the two higher ranges of total gross product.

A study of the mean scores for participation in young farmer classes is shown in Table 62. These data show that the vocational agriculture group had a group mean participation score of 1.18 as compared with the 1.06 group mean participation score for the nonvocational agriculture group. It is quite obvious that the vocational agriculture group had participated more in the young farmer class than the nonvocational agriculture group. On further investigation of the data, it is found that the second period graduates in the vocational agriculture group had a

Table 60. Mean participation scores in young and adult farmer classes as related to acres farmed

Range in acres	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1-80	--	--	4.50	2.50		2.33	--	2.00	2.00	
81-120	--	2.40	2.00	2.14		2.00	2.28	2.00	2.25	
121-160	2.00	2.40	2.64	2.60		2.38	2.17	2.38	2.15	
161-200	2.88	2.20	2.43	2.50		2.00	2.00	2.17	2.00	
201-240	2.25	3.67	2.14	2.00		3.50	2.00	2.14	2.17	
241-280	2.75	2.50	2.40	2.00		2.50	2.00	2.00	2.00	
281-320	2.33	2.00	2.50	2.00		2.00	2.00	2.20	2.00	
321-420	2.00	3.00	--	2.50		2.00	2.17	3.00	2.33	
421-520	2.00	2.00	2.00	2.50		--	2.00	2.00	--	
521 or over	2.25	2.00	--	--		--	--	--	2.00	
Mean	2.38	2.42	2.52	2.30	2.41	2.32	2.12	2.22	2.12	2.20
1963 mean	2.22	2.76	2.31	2.32	2.39	2.20	2.50	2.28	2.46	2.35

Table 61. Mean participation scores in young and adult farmer classes as related to total gross product

Range in dollars	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
100-2,000	--	2.00	--	2.33		2.50	2.00	2.00	2.00	
2,100-4,000	2.50	2.50	2.00	2.38		2.25	2.00	2.28	2.38	
4,100-6,000	3.25	2.50	3.00	2.09		2.40	2.17	2.40	2.12	
6,100-8,000	2.27	2.40	2.33	2.11		2.14	2.29	2.08	2.00	
8,100-10,000	2.25	2.00	2.25	4.00		2.00	2.11	2.25	2.00	
10,100-12,000	2.50	2.33	2.60	2.00		3.00	2.00	2.25	2.00	
12,100-14,000	2.00	3.00	2.00	2.00		2.00	2.00	3.00	--	
14,100-18,000	2.00	2.50	2.67	2.00		2.00	--	--	--	
18,100 and over	2.40	--	--	3.00		--	--	2.00	--	
Mean	2.38	2.42	2.52	2.30	2.41	2.32	2.12	2.22	2.12	2.20
1963 mean	2.22	2.76	2.31	2.32	2.39	2.20	2.50	2.28	2.46	2.35

Table 62. Mean scores for participation in young farmer classes

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	1.05	1.12	1.08
	Nonowner	1.18	1.05	1.12
	Both	1.12	1.08	1.10
1949-1954	Owner	1.25	1.05	1.15
	Nonowner	1.22	1.02	1.12
	Both	1.24	1.04	1.14
Both periods	Owner	1.15	1.08	1.12
	Nonowner	1.20	1.04	1.12
	Both	1.18	1.06	1.12

mean score of 1.24, as compared with the first period graduates of the same group, who had a mean score of 1.12. This portion of the data indicates that the second period vocational agriculture graduates scored consistently higher than any of the other graduates in the study, regardless of whether their parents were classified as an owner or nonowner.

Table 63 displays an analysis of variance for participation in young farmer classes. It should be noted that an F value of 4.25 indicated a significant difference at the five percent level in favor of the vocational agriculture graduates in the extent of participation in young farmer classes. The other two main causes of variance showed nonsignificant F values. A significant F value of 3.94 was found for the interaction of vocational agriculture with ownership status and graduation period. As indicated by the mean scores, the vocational agriculture group held higher mean scores along with the nonowners

Table 63. Analysis of variance for participation in young farmer classes

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F
Vocational agriculture status	1	1.08	1.08	4.25*
Ownership status	1	.02	.02	.08
Graduation period	1	.12	.12	.47
Vocational agriculture x Ownership status	1	.18	.18	.71
Vocational agriculture x Graduation period	1	.55	.55	2.17
Ownership status x Graduation period	1	.05	.05	.20
Vocational agriculture x Ownership status x Graduation period	1	1.00	1.00	3.94*
Within	312	79.40	.254	
Totals	319	82.40		

outperforming the owners and the second period graduates holding higher mean scores. Apparently the difference in participation was not significant when the nonvocational agriculture graduates were compared on the basis of these interactions.

In Table 64, the mean scores for participation in adult farmer class are illustrated. An investigation of the group mean score for the vocational agriculture group discloses a score of 1.23, as compared to a score of 1.14 for the nonvocational agriculture group. It should

Table 64. Mean scores for participation in adult farmer classes

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	1.32	1.20	1.26
	Nonowner	1.35	1.18	1.26
	Both	1.34	1.19	1.26
1949-1954	Owner	1.18	1.07	1.12
	Nonowner	1.07	1.10	1.08
	Both	1.12	1.08	1.10
Both periods	Owner	1.25	1.14	1.20
	Nonowner	1.21	1.14	1.18
	Both	1.23	1.14	1.19

be noted that the vocational agriculture group participated more in adult farmer classes than the nonvocational agriculture group because of period of graduation or ownership status of the parents. An analysis of variance for participation in adult farmer classes is illustrated in Table 65.

An F value of 7.71 indicated a significant difference at the one percent level in favor of the early period graduates in the extent of participation in adult farmer classes. The F value of analysis of variance for vocational agriculture status approached significance. The mean indicates that this advantage would be in favor of the vocational agriculture graduates.

The combined mean participation scores for participation in young and adult classes are shown in Table 66. When the mean participation scores for participation in young farmer classes are combined with the mean participation scores for participation of the adult farmer

Table 65. Analysis of variance for participation in adult farmer classes

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F
Vocational agriculture status	1	.61	.61	2.36
Ownership status	1	.03	.03	.17
Graduation period	1	1.99	1.99	7.71**
Vocational agriculture x Ownership status	1	.11	.11	.43
Vocational agriculture x Graduation period	1	.29	.29	1.12
Ownership status x Graduation period	1	.63	.63	2.44
Vocational agriculture x Ownership status x Graduation period	1	.55	.55	2.13
Within	312	80.39	.258	
Totals	319	84.60		

**Significant at the one percent level.

classes, the vocational agriculture group still had an advantage over the nonvocational agriculture group. The vocational agriculture group outscored the nonvocational agriculture group regardless of period of graduation or ownership status of parent.

No significant F values were found when the analysis of variance tests were computed for the mean scores in young and adult farmer classes. The F value of 3.38 approached significance, and the differ-

Table 66. Mean scores for participation in young and adult classes

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	2.38	2.32	2.35
	Nonowner	2.52	2.22	2.37
	Both	2.45	2.27	2.36
1949-1954	Owner	2.42	2.12	2.27
	Nonowner	2.30	2.12	2.21
	Both	2.36	2.12	2.24
Both periods	Owner	2.40	2.22	2.31
	Nonowner	2.41	2.17	2.29
	Both	2.40	2.20	2.30

ence was in favor of the vocational agriculture group. The F value of 3.46 for the interaction of vocational agriculture with ownership status also approached significance.

Church Organizations

Mean participation scores in various church organizations as related to size of home farm, number of years farmed, number of years attended college, farming status, farm management practices in farm records, farm production and management practices used, type of records, acres farmed and total gross product are shown in Tables 67 through 75.

A closer investigation of the relationship of mean participation scores in some of the various church organizations is shown in Tables 76 through 81.

As displayed in Table 67, through 75, the mean participation scores

in church organizations are related to various background information. The group mean participation score of 7.68 for the nonvocational agriculture group exceeded the mean participation score of 7.26 for the vocational agriculture group. A check of the 1963 data indicates a group mean participation score of 8.66 for the nonvocational agriculture group, as compared with the lower 1963 group mean of 8.01 for the vocational agriculture graduates. It is evident from these data that the first period graduates consistently scored higher mean participation scores in church organizations than did the second period graduates. A closer investigation of the data reveals that the nonvocational agriculture group consistently report high mean participation scores in church organizations when related to the size of home farm.

As presented in Table 67, the scores recorded by the nonvocational agriculture group remained quite constant throughout the range in acres except for the graduates who were farming 401 acres or more. Table 67 also indicates that the mean participation scores in church organizations, as recorded by the vocational agriculture group, have a tendency to fluctuate. The group of vocational agriculture graduates who were farming 1-80 acres had low mean participation scores in church organizations, then tended to increase rapidly through the 241-280 acre range. The vocational agriculture graduates' mean participation scores in church organizations fell off considerably in the 281-320 acre range, then increased again in the 321-360 acre range and 361-400 acre range. This group also fell off in mean participation scores in church organizations when farming 401 acres or more.

Table 67. Mean participation scores in church organizations as related to size of home farm

Range in acres	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1-80	6.00	6.00	6.00	--		6.00	5.00	7.33	13.00	
81-120	10.00	6.40	9.50	6.00		7.80	6.60	6.00	9.50	
121-160	7.00	8.00	6.78	6.33		7.45	8.10	8.50	7.73	
161-200	11.00	6.20	8.00	8.57		8.42	8.86	9.60	7.00	
201-240	7.14	8.00	6.75	6.89		6.40	8.00	8.75	7.40	
241-280	8.00	8.50	8.00	6.00		9.60	6.50	7.50	10.00	
281-320	6.50	6.67	7.00	6.25		10.00	5.80	6.75	6.33	
321-360	10.00	--	--	6.33		6.00	7.00	7.77	9.00	
361-400	9.00	6.33	6.50	--		7.00	7.00	10.00	--	
401 or more	6.80	5.50	7.50	6.67		--	6.00	6.00	6.33	
Mean	7.90	7.12	7.18	6.82	7.26	7.88	7.30	8.00	7.55	7.68
1963 mean	8.12	7.62	8.17	8.14	8.01	8.52	6.88	8.87	9.73	8.66

As shown in Table 68, the mean participation scores in church organizations are related to the number of years farmed. These data reveal that the vocational agriculture graduates quite consistently increased in participation scores as the number of years farmed increased. As a comparison, the nonvocational agriculture group's mean participation scores in church organizations had a tendency to fluctuate more when related to the number of years farmed. The nonvocational agriculture graduates had quite high participation scores in church organizations when they had been farming for one year only. This group then had a tendency to drop off in mean participation scores when related to the two and three year category of number of years farmed. However, the group then had a tendency to increase steadily in mean participation scores in church organizations as the number of years farmed increased through the tenth year of experience. The nonvocational agriculture graduates who had farmed for eleven years had somewhat lower participation scores. However, the same group of graduates who had farmed twelve years had the highest participation scores among the nonvocational agriculture graduates.

In the main, those graduates who had been farming for a longer period of time participated more in church organizations. This phenomenon is also displayed in the increase of participation scores in the 1963 group means.

The mean participation scores in church organizations as related to number of years attended college are shown in Table 69. The mean participation scores in church organizations had a tendency to steadily

Table 68. Mean participation scores in church organizations as related to number of years farmed

Years	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1	8.00	6.50	6.00	6.50		10.00	13.00	--	6.75	
2	--	7.58	--	6.78		--	7.00	--	6.89	
3	5.50	7.30	--	6.12		6.33	6.62	6.50	8.26	
4	7.50	6.50	6.00	9.50		6.00	6.78	9.00	7.00	
5	8.33	6.40	5.67	5.83		6.33	7.71	8.50	7.50	
6	--	5.00	8.20	7.75		7.50	7.50	6.50	--	
7	7.25	8.00	8.67	6.00		6.25	6.00	7.80	13.00	
8	7.00	--	8.20	--		12.33	--	7.56	--	
9	7.86	--	7.00	--		8.40	--	8.12	--	
10	9.50	--	8.00	--		9.80	--	8.40	--	
11	7.50	--	6.67	--		6.17	--	7.00	--	
12	8.11	--	6.00	--		10.00	--	11.00	--	
Mean	7.90	7.12	7.18	6.82	7.26	7.88	7.30	8.00	7.55	7.68
1963 mean	8.12	7.62	8.17	8.14	8.01	8.52	6.88	8.87	9.73	8.66

Table 69. Mean participation scores in church organizations as related to number of years attended college

Years	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
None	7.65	7.08	7.08	6.60		7.48	7.10	8.01	7.45	
1	6.17	7.50	9.00	9.75		7.30	6.80	7.83	8.50	
2	9.80	--	6.57	7.00		10.00	9.80	6.50	11.00	
3	12.50	--	--	--		19.00	--	10.00	--	
4	9.50	--	--	--		6.50	--	11.00	--	
Mean	7.90	7.12	7.18	6.82	7.26	7.88	7.30	8.00	7.55	7.68
1963 mean	8.12	7.62	8.17	8.14	8.01	8.52	6.88	8.87	9.73	8.66

increase as the number of years attended college increased. It should be noted that the group who had attended four years of college had slightly smaller mean participation scores. This lower mean participation score for the participants who had attended four years of college may be due to the small sample. These data reveal that the mean participation scores in church organizations increase as the graduates attend more years of college. This may be due to the added maturity and establishment and increased opportunity to participate in adult church organizations. These findings may also be due to a greater opportunity to participate in church activities which prevailed among most colleges and universities. It would seem that this experience would have a tendency to carry over when the graduates became established in farming.

An illustration of mean participation scores in church organizations when related to farming status is made in Table 70. The mean participation scores in church organizations recorded by the vocational agriculture group appear to have remained quite consistent regardless of farming status. In comparison, the nonvocational agriculture group recorded higher mean participation scores in church organizations among those graduates who were in the four lower status groups. This appears to be the area in which nonvocational agriculture group consistently outscored the vocational agriculture group. The highest mean participation scores in church organizations appear to have been achieved by those nonvocational agriculture graduates who graduated during the first period and whose parents were classified as owners and were in the part

Table 70. Mean participation scores in church organizations as related to farming status

Status	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Without definite wages	10.00	6.20	--	6.67		--	7.00	7.00	8.28	
With definite wages	5.00	7.00	6.50	5.75		--	10.00	10.00	6.62	
With or without wages plus a share of the profits	6.00	6.75	--	6.73		7.00	6.80	9.50	7.43	
Income sharing agreement or partnership	6.75	6.12	8.00	6.00		7.00	6.00	8.75	7.00	
Livestock share lease	8.44	8.36	7.44	7.14		7.42	7.57	7.30	8.14	
Crop share lease	7.69	7.22	6.65	7.33		8.18	8.00	8.21	7.50	
Cash lease	8.50	7.00	8.40	6.00		6.33	--	6.40	--	
Part owner-operator	--	--	--	--		19.00	--	9.00	--	
Owner-operator	8.00	--	--	--		7.00	--	10.00	--	
Mean	7.90	7.12	7.18	6.82	7.26	7.88	7.30	8.00	7.55	7.68
1963 mean	8.12	7.62	8.17	8.14	8.01	8.52	6.88	8.87	9.73	8.66

owner-operator status.

As indicated by data in Table 71, the mean participation scores in church organizations are related to farm management practices in farm records. These data reveal that the vocational agriculture graduates consistently score higher mean participation scores in church organizations as their use of farm management practices in farm records increases. The same is true of the nonvocational agriculture graduates, except for those graduates who always used the farm management practices in farm records, in which case they have a tendency to drop off slightly in mean participation scores in church organizations.

A relationship of the mean participation scores in church organizations to farm production and management practices used is given by data in Table 72. These data show that both the vocational agriculture and nonvocational agriculture groups quite obviously increased in mean participation scores in church organizations as the extent of farm production and management practices used was increased. These data would imply that those graduates who made use of the farm production and management practices to a greater extent had more time to participate in the various church activities.

As seen in Table 73, the mean participation scores in church organizations are related to types of records kept. This presentation points out that the vocational agriculture graduates appear to consistently have higher mean participation scores in church organizations as the type of farm records kept increases in classification. The mean participation scores in church organizations recorded by the nonvoca-

Table 71. Mean participation scores in church organizations as related to farm management practices in farm records

Extent used	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Always	8.28	7.45	7.84	7.16		7.25	7.88	8.79	7.56	
Usually	8.65	7.20	6.71	6.12		9.60	7.35	8.30	7.84	
Frequently	6.47	6.00	6.82	7.16		8.67	7.04	7.47	7.40	
Seldom	6.25	7.00	6.18	7.20		10.11	6.67	8.50	7.45	
Never	7.33	6.60	6.50	6.53		6.17	6.74	7.32	7.64	
Does not apply	--	--	--	6.00		5.25	12.00	6.00	6.00	
Mean	7.90	7.12	7.18	6.82	7.26	7.88	7.30	8.00	7.55	7.68
1963 mean	8.12	7.62	8.17	8.14	8.01	8.52	6.88	8.87	9.73	8.66

Table 72. Mean participation scores in church organizations as related to farm production and management practices used

Extent used	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Always	8.12	7.30	7.44	7.02		7.38	8.62	8.26	7.84	
Usually	9.27	6.94	7.10	6.53		8.67	7.41	7.90	7.38	
Frequently	7.98	6.92	6.68	6.89		8.60	7.65	7.66	7.25	
Seldom	7.28	7.11	6.61	6.79		8.48	6.40	7.84	7.48	
Never	7.58	6.89	6.96	7.08		7.39	7.02	7.69	7.57	
Does not apply	7.67	7.13	7.17	6.57		8.36	9.49	7.79	8.42	
Mean	7.90	7.12	7.18	6.82	7.26	7.88	7.30	8.00	7.55	7.68
1963 mean	8.12	7.62	8.17	8.14	8.01	8.52	6.88	8.87	9.73	8.66

Table 73. Mean participation scores in church organizations as related to type of records used

Type	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
None	7.00	7.75	6.00	6.00		7.00	7.50	6.67	7.33	
Receipts, expenditures and depreciation	7.00	5.00	6.00	6.00		6.20	8.00	7.60	8.33	
Receipts, expenditures and depreciation plus one other	8.80	6.00	7.58	6.82		8.62	7.67	9.00	7.73	
Receipts, expenditures and depreciation plus two others	7.25	7.31	7.20	6.41		8.60	6.80	8.08	7.20	
Receipts, expenditures and depreciation plus net worth, analysis and inventories	8.00	7.64	7.23	7.70		7.20	7.33	7.00	7.75	
Mean	7.90	7.12	7.18	6.82	7.26	7.88	7.30	8.00	7.55	7.68
1963 mean	8.12	7.62	8.17	8.14	8.01	8.52	6.88	8.87	9.73	8.66

tional agriculture graduates also increased as the type of farm records kept increased in classification, up to the second classification, then the scores tended to drop off somewhat. It should be noted in these data that the vocational agriculture graduates scored higher mean participation scores in the highest category of records kept, whereas the nonvocational agriculture graduates had the highest mean participation scores in the classification of "receipts, expenditures and depreciation plus one other practice". This may be due to the interaction of better records being kept by the vocational agriculture group and yet reporting slightly smaller participation in church organizations; whereas the nonvocational agriculture graduates did not use as high classifications of farm records kept but scored slightly higher mean participation in church organizations.

The mean participation scores in church organizations as related to acres farmed are presented in Table 74. The highest mean participation scores in church organizations for the vocational agriculture graduates are in the 121-160 acre range, and the 201-240 acre range of acres farmed. Other than these two areas, the mean participation scores of the vocational agriculture group in church organizations appear to be quite consistent when related to the acres farmed. The highest mean participation scores of the nonvocational agriculture group appear to be in the 241-280 acre and 281-320 acre range of acres farmed. Their other mean participation scores appear to be quite consistent, except for the group in the 1-80 acre range and the last two ranges; namely 421-520 and 521 acres and over.

Table 74. Mean participation scores in church organizations as related to number of acres farmed

Range in acres	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1-80	--	--	8.00	6.50		5.67	--	7.00	6.50	
81-120	--	6.80	5.50	6.28		6.25	7.43	10.00	7.75	
121-160	7.44	7.93	7.36	7.80		7.85	7.08	7.25	8.46	
161-200	9.25	6.00	7.14	6.25		9.67	8.50	8.67	6.20	
201-240	7.50	9.33	6.43	7.17		6.50	8.00	9.28	7.00	
241-280	11.50	5.50	7.80	6.00		11.00	6.33	7.50	10.00	
281-320	5.67	6.33	8.00	6.40		14.00	7.00	6.40	7.67	
321-420	5.50	6.00	--	7.00		5.50	6.83	10.00	7.67	
421-520	7.00	6.33	7.00	6.00		--	6.00	6.00	--	
521 and over	6.75	6.50	--	--		--	--	--	6.33	
Mean	7.90	7.12	7.18	6.82	7.26	7.88	7.30	8.00	7.55	7.68
1963 mean	8.12	7.62	8.17	8.14	8.01	8.52	6.88	8.87	9.73	8.66

Table 75. Mean participation scores in church organizations as related to total gross product

Range in dollars	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
100-2,000	--	5.00	--	6.33		6.00	7.33	6.00	6.50	
2,100-4,000	7.50	7.75	5.50	7.00		6.62	7.17	7.71	7.00	
4,100-6,000	6.25	6.69	7.64	6.27		6.60	7.67	7.00	7.62	
6,100-8,000	7.27	6.60	6.44	5.89		7.86	6.86	8.50	8.25	
8,100-10,000	8.42	8.50	7.38	12.00		8.33	7.00	8.50	8.67	
10,100-12,000	14.00	6.33	6.20	7.00		10.60	11.00	9.25	6.00	
12,100-14,000	8.50	8.50	6.50	8.00		10.00	6.50	6.00	--	
14,100-18,000	7.00	10.00	10.33	10.00		10.33	--	--	--	
18,100 and over	7.20	--	--	8.00		--	--	6.00	--	
Mean	7.90	7.12	7.18	6.82	7.26	7.88	7.30	8.00	7.55	7.68
1963 mean	8.12	7.62	8.17	8.14	8.01	8.52	6.88	8.87	9.73	8.66

As shown in Table 75, the mean participation scores in church organizations are related to total gross product. In the main, both the vocational agriculture group and the nonvocational agriculture group display mean participation scores in church organizations that have a tendency to increase as the range in dollars of gross product increases. Also in both cases, the mean participation scores in church organizations drop off when the graduates reach the $18,100 and over range in total gross product. This may be due to a smaller number of graduates classified in this higher range of total gross product.

Table 76 shows the mean scores for participation in church. These data show that the nonvocational agriculture group exceeds slightly the vocational agriculture group with a group mean participation score of 2.40 as compared with the group mean participation score of 2.18 for

Table 76. Mean scores for participation in church

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	2.38	2.62	2.50
	Nonowner	2.35	2.58	2.46
	Both	2.36	2.60	2.48
1949-1954	Owner	2.05	2.28	2.16
	Nonowner	1.95	2.10	2.02
	Both	2.00	2.19	2.09
Both periods	Owner	2.22	2.45	2.34
	Nonowner	2.15	2.34	2.24
	Both	2.18	2.40	2.29

the vocational agriculture group. A closer investigation of Table 76 discloses that the nonvocational agriculture graduates who graduated during the first period had a mean participation score of 2.60 in church attendance, as compared with the slightly lower mean participation score for the early graduates from the vocational agriculture schools. Likewise, the vocational agriculture graduates who graduated during the second period had a mean participation score in church attendance of 2.00 as compared with the slightly higher mean participation score for the second period nonvocational agriculture graduates. These data also reveal that the graduates whose parents were owners had slightly larger mean participation scores in church attendance than the graduates whose parents were classified as nonowners.

The F values obtained in an analysis of variance test of the responses of the two groups of graduates are shown in Table 77. An F value of 3.80 for the vocational agriculture status approached significance in favor of the nonvocational agriculture graduates. An F value of 12.64 for the graduation period indicated a significant difference at the one percent level in favor of the early period graduates. An F value of 48.00 for the interaction of vocational agriculture with ownership status indicated a highly significant difference at the one percent level.

Mean participation scores for participation in Sunday school were tabulated. The group mean participation score for the vocational agriculture graduates was so close to the group mean score of 1.56 for the nonvocational agriculture graduates that the data were not tabled.

Table 77. Analysis of variance for participation in church

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F
Vocational agriculture status	1	3.61	3.61	3.80
Ownership status	1	.61	.61	.64
Graduation period	1	12.01	12.01	12.64**
Vocational agriculture x Ownership status	1	45.60	45.60	48.00**
Vocational agriculture x Graduation period	1	.05	.05	.02
Ownership status x Graduation period	1	.23	.23	.24
Vocational agriculture x Ownership status x Graduation period	1	.33	.33	.35
Within	312	297.22	.95	
Totals	319	359.72		

**Significant at the one percent level.

A closer investigation of the data reveals similar closeness among the graduates in the two different periods and among the graduates whose parents were classified as owners and nonowners. A similar set of scores was found when the mean participation scores for participation in choir were tabulated. The vocational agriculture graduates had a group mean participation score of 1.16 as compared with the group mean score of 1.14 for the nonvocational agriculture graduates. These data were not tabled.

Table 78. Mean scores for participation in the youth or young married people's group

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	1.35	1.18	1.26
	Nonowner	1.15	1.28	1.22
	Both	1.25	1.23	1.24
1949-1954	Owner	1.15	1.22	1.18
	Nonowner	1.10	1.48	1.29
	Both	1.12	1.35	1.24
Both periods	Owner	1.25	1.20	1.22
	Nonowner	1.12	1.38	1.25
	Both	1.18	1.29	1.24

The mean scores for participation in the youth or young married peoples' group is shown in Table 78. There was very little difference in mean participation scores recorded for the vocational agriculture group as compared with the nonvocational agriculture group. The nonvocational agriculture group had a slightly higher group mean participation score of 1.29 as compared with the group mean participation score of 1.18 for the vocational agriculture group. As can be noted in Table 78, the group mean participation score for the first period graduates was exactly the same as for the second period graduates. Likewise, the mean participation score for the graduates whose parents were classified as owners had a mean participation score of 1.22 as compared with the graduates whose parents were classified as nonowners and who had a mean participation score of 1.25.

Mean scores for participation in men's church organizations are

Table 79. Mean scores for participation in men's church organizations

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	1.20	1.35	1.28
	Nonowner	1.25	1.58	1.42
	Both	1.22	1.47	1.35
1949-1954	Owner	1.28	1.10	1.19
	Nonowner	1.10	1.20	1.15
	Both	1.19	1.15	1.17
Both periods	Owner	1.24	1.22	1.23
	Nonowner	1.18	1.39	1.28
	Both	1.21	1.30	1.26

illustrated in Table 79. The nonvocational agriculture graduates had a group mean participation score of 1.30, which was slightly higher than the group mean participation score of 1.21 for the vocational agriculture graduates. The first period graduates had a group mean participation score of 1.35 as compared with the group mean participation score of 1.17 for the second period graduates. The graduates whose parents were classified as owners had a slightly smaller mean participation score of 1.23 as compared with the 1.28 of the graduates whose parents were classified as nonowners.

The F values obtained in analysis of variance tests of the responses of the two groups of graduates are shown in Table 80. An F value of 4.80 indicated a significant difference at the five percent level in favor of the first period graduates in the extent of participation in men's church organizations. An F value of 6.05 indicated

Table 80. Analysis of variance for participation in men's church organizations

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F
Vocational agriculture status	1	1.04	1.04	2.04
Ownership status	1	.19	.19	.37
Graduation period	1	2.45	2.45	4.80*
Vocational agriculture x Ownership status	1	.83	.83	1.63
Vocational agriculture x Graduation period	1	1.33	1.33	2.61
Ownership status x Graduation period	1	.66	.66	.13
Vocational agriculture x Ownership status x Graduation period	1	3.09	3.09	6.05*
Within	312	158.39	.51	
Totals	319	167.98		

*Significant at the five percent level.

a significant difference at the five percent level for the interaction of vocational agriculture with ownership status and graduation period.

Table 81 shows mean scores for participation in church organizations. The nonvocational agriculture group had a group mean participation score of 7.68 as compared with the slightly smaller group mean participation score of 7.26 for the vocational agriculture graduates. The first period graduates had a mean score for participation in church

Table 81. Mean scores for participation in church organizations

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	7.90	7.88	7.89
	Nonowner	7.18	8.00	7.59
	Both	7.54	7.94	7.74
1949-1954	Owner	7.12	7.30	7.21
	Nonowner	6.82	7.55	7.18
	Both	6.97	7.42	7.20
Both periods	Owner	7.51	7.59	7.55
	Nonowner	7.00	7.78	7.39
	Both	7.26	7.68	7.47

organizations of 7.74 as compared with the slightly smaller mean participation score of 7.20 for the second period graduates. A mean participation score of 7.55 for participation in church organizations by graduates whose parents were classified as owners was slightly higher than the mean participation score of 7.39 for the graduates whose parents were classified as nonowners. An analysis of variance was used for determining the difference, and no significant difference was found.

All Organized Groups

Tables 82 through 91 illustrate data regarding total mean participation scores in all organized groups when related to size of home farm, number of years farmed, number of years attended college, farming status, farm management practices in farm records, farm production and management practices used, type of records, acres farmed

and total gross product. Each individual graduate included in the study had a total participation score which represented his participation in all 20 organizations. The total participation scores for each individual that were included in a cell were totaled, then divided by the number of individuals in that cell to get a total mean score for participation in all organized groups, then related to the different background information.

As shown in Tables82 through 90, the group mean total participation score of 25.91 for the vocational agriculture group exceeded the group mean total participation score of 25.63 for the nonvocational agriculture group. The vocational agriculture graduates whose parents were classified as owners and who graduated during the first period of graduation had a group mean total participation score of 27.70 as compared with the group mean score of 26.80 for the nonvocational agriculture graduates who were in the same classification. The vocational agriculture graduates who graduated during the second period of graduation and whose parents were classified as owners had a group mean score of 25.80, which was considerably higher than the group mean score of 24.60 for the nonvocational agriculture graduates who graduated during the first period and whose parents were classified as owners. The vocational agriculture graduates who graduated during the first period and whose parents were classified as nonowners had a group mean total participation score of 26.25, which was slightly less than the group mean total participation score of 26.40 for the nonvocational agriculture graduates who graduated during the first period and whose parents

were classified as nonowners. The group mean total participation score for the second period vocational agriculture graduates whose parents were classified as nonowners was slightly smaller than the group mean total participation score of 24.72 for the second period nonvocational agriculture graduates whose parents were classified as nonowners. These data reveal that the vocational agriculture graduates whose parents were classified as owners had higher total mean participation scores in all organized groups than the nonvocational agriculture groups whose parents were classified as owners. It also reveals that the vocational agriculture graduates whose parents were classified as nonowners had smaller total mean participation scores in all organized groups than the nonvocational agriculture graduates whose parents were classified as nonowners. These data also show that the 1963 group mean total participation score of 26.82 for the vocational agriculture group slightly exceeded the 1963 group mean total participation score of 26.55 for the nonvocational agriculture group. The 1963 data also reveal that the vocational agriculture graduates who graduated during the first period and whose parents were classified as owners had a 1963 mean score of 26.90 as compared with the 26.64 for the similar group in the nonvocational agriculture classification. The second period vocational agriculture graduates whose parents were classified as owners had a 1963 mean participation score of 26.57, as compared with the considerably lower 1963 mean score of 24.39 for the second period nonvocational agriculture graduates whose parents were classified as owners. The first period vocational agriculture graduates whose parents were classified as non-

owners had a 1963 mean score of 27.09, as compared with the smaller 1963 mean score of 25.83 for the first period nonvocational agriculture graduates whose parents were classified as nonowners. The only nonvocational agriculture group which exceeded the vocational agriculture group was the group of late period graduates whose parents were classified as nonowners. They had a 1963 mean score of 27.96 as compared with the 26.65 1963 mean score for the second period vocational agriculture graduates whose parents were classified as nonowners.

As shown in Table 82, the total mean participation scores in all organized groups are related to size of home farm. Among the vocational agriculture graduates, no definite relationship exists when compared with size of the home farm. Those graduates whose home farm ranged in size from 81-120, 161-200, and 361-400 acres have higher mean participation scores. The nonvocational agriculture group appears to show no definite relationship with the size of home farm. The highest total mean participation scores for the nonvocational agriculture group are in the 361-400 acre range in size of home farm.

The total mean participation scores in all organized groups as related to number of years farmed is presented in Table 83. There is a positive relationship of total mean participation scores in all organized groups for the vocational agriculture graduates when related to the number of years farmed. As the number of years farmed increases, the total mean participation scores in all organized groups increase.

Table 82. Total mean participation scores in all organized groups as related to size of home farm

Range in acres	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1-80	22.50	27.00	24.33	--		24.00	21.00	24.33	30.00	
81-120	33.00	24.20	28.50	23.00		24.00	24.20	21.00	26.00	
121-160	25.80	26.50	26.56	22.22		27.73	24.50	29.00	25.09	
161-200	31.00	24.80	28.00	28.43		26.71	26.00	27.80	24.33	
201-240	27.40	25.00	24.12	23.67		26.00	23.50	28.38	25.20	
241-280	26.30	29.25	28.00	22.00		30.20	23.00	24.75	25.00	
281-320	28.80	24.17	24.80	22.50		27.33	24.00	23.75	23.17	
321-360	27.50	--	--	24.00		22.50	25.00	27.33	27.50	
361-400	28.00	28.67	29.50	--		28.00	27.50	27.00	--	
Mean	27.70	25.80	26.25	23.90	25.91	26.80	24.60	26.40	24.72	25.63
1963 mean	26.90	26.57	27.09	26.65	26.82	26.64	24.39	25.83	27.96	26.55

Table 83. Total mean participation scores in all organized groups as related to number of years farmed

Years	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1	26.00	22.50	22.00	23.50		35.00	28.50	--	23.00	
2	--	26.25	--	23.28		--	23.38	--	23.22	
3	22.00	26.80	--	22.88		25.00	23.12	22.00	26.18	
4	30.50	25.33	22.67	29.00		24.00	24.00	29.33	24.22	
5	28.67	23.00	23.67	21.67		26.33	25.57	31.00	25.83	
6	--	23.00	30.20	27.00		24.83	28.50	24.00	--	
7	26.00	28.50	30.00	23.00		25.25	23.00	24.40	31.00	
8	26.00	--	27.80	--		33.00	--	24.89	--	
9	28.14	--	25.50	--		27.80	--	27.75	--	
10	30.17	--	26.50	--		30.20	--	26.20	--	
11	27.50	--	24.83	--		24.50	--	25.00	--	
12	27.78	--	27.25	--		26.50	--	32.50	--	
Mean	27.70	25.80	26.25	23.90	25.91	26.80	24.60	26.40	24.72	25.63
1963 mean	26.90	26.57	27.09	26.65	26.82	26.64	24.39	25.83	27.96	26.55

The same seems to hold true for the nonvocational agriculture group. As the number of years the nonvocational agriculture graduates farmed increased, their total mean participation scores in all organized groups tended to increase. It should be noted that among the vocational agriculture group some of the higher participation scores in all organized groups occurred among those graduates who had farmed for only one year. It should be noted that some of the early period graduates had been farming for only one year; therefore this would mean that the graduates in that particular group had probably served in the U. S. Armed Forces and/or had attended college before getting established in farming. This added maturity probably would help to increase their participation scores.

As shown in Table 84, the total mean participation scores in all organized groups are related to number of years attended college. The total mean participation scores in all organized groups quite obviously increased as the number of years attended college increased. This was true for the vocational agriculture group as well as the nonvocational agriculture group, except for the nonvocational agriculture graduates who had attended college for four years. In this case, their mean participation scores dropped off somewhat.

The total mean participation scores in all organized groups as related to farming status are shown in Table 85. These data reveal that among the vocational agriculture graduates the group that was in the working without definite wages status had fairly high mean participation scores. This may mean that the vocational agriculture graduates had

Table 84. Total mean participation scores in all organized groups as related to number of years attended college

Years	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
None	27.20	25.37	26.08	23.35		26.32	24.44	26.57	24.10	
1	24.00	29.67	28.50	29.50		30.40	24.60	28.50	27.50	
2	32.20	--	26.14	25.00		29.25	26.20	25.50	33.00	
3	34.00	--	--	--		39.00	--	33.67	--	
4	34.00	--	--	--		24.50	--	35.00	--	
Mean	27.70	25.80	26.25	23.90	25.91	26.80	24.60	26.40	24.72	25.63
1963 mean	26.90	26.57	27.09	26.65	26.82	26.64	24.39	25.83	27.96	26.55

Table 85. Total mean participation scores in all organized groups as related to farming status

Status	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Without definite wages	26.00	24.80	--	23.00		--	23.09	24.00	24.86	
With definite wages	20.00	23.00	22.00	21.00		--	27.00	26.00	22.12	
With or without wages plus a share of the profits	22.00	24.00	--	23.09		28.00	24.60	28.00	25.00	
Income sharing agreement or partnership	30.25	25.75	27.50	24.00		25.00	23.00	29.25	23.00	
Livestock share lease	27.88	28.54	26.67	25.57		25.83	24.85	25.20	26.43	
Crop share lease	28.00	24.89	25.50	24.83		28.00	27.28	27.57	25.00	
Cash lease	28.00	22.00	30.00	24.00		25.33	--	22.40	--	
Part owner-operator	--	--	--	--		39.00	--	28.00	--	
Owner-operator	26.50	--	--	--		22.67	--	29.00	--	
Mean	27.70	25.80	26.25	23.90	25.91	26.80	24.60	26.40	24.72	25.63
1963 mean	26.90	26.57	27.09	26.65	26.82	26.64	24.39	25.83	27.96	26.55

been influenced by the high school vocational agriculture program and the Future Farmers of America so that they were participating in several organizations. However, during their beginning in farming they may have been working at home without definite wages. The vocational agriculture graduates who were in the working with definite wages status had somewhat lower total mean participation scores in organized groups, which may mean that these graduates were working as hired hands and were not as interested in some of the available organizations. In the main, the total mean participation scores in all organized groups among the vocational agriculture graduates increased as the status in farming increased up to and including the livestock share lease status. Starting with the crop share lease, the participation scores leveled off and tended to remain the same. Among the nonvocational agriculture graduates, the total mean participation scores in all organized groups had a tendency to be somewhat irregular from status to status and no noticeable trend could be observed.

As seen in Table 36, the total mean participation scores in all organized groups are related to farm management practices in farm records. When the total mean participation scores in all organized groups for the vocational agriculture graduates were related to the farm management practices in farm records, it was found that a high relationship existed. As the farm management practices in farm records increased in extent, the mean participation scores in all organized groups also increased. It was found that among the nonvocational agriculture graduates there was no definite relationship between total mean participation scores in

Table 86. Total mean participation scores in all organized groups as related to farm management practices in farm records

Extent used	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Always	27.88	27.06	27.49	24.60		25.96	25.92	26.88	25.03	
Usually	28.46	26.20	25.26	22.48		29.65	24.87	26.18	24.94	
Frequently	26.59	22.89	26.00	24.47		28.19	23.56	24.88	25.20	
Seldom	24.38	24.82	24.36	25.00		29.22	25.33	29.75	24.90	
Never	27.00	23.07	25.00	22.84		23.83	23.87	25.97	24.07	
Does not apply	--	--	--	26.00		20.75	27.50	24.50	23.20	
Mean	27.70	25.80	26.25	23.90	25.91	26.80	24.60	26.40	24.72	25.63
1963 mean	26.90	26.57	27.09	26.65	26.82	26.64	24.39	25.83	27.96	26.55

all organized groups and the extent that farm management practices in farm records were used.

Table 87 shows the total mean participation scores in all organized groups as related to farm production and management practices used. It is illustrated in Table 87 that a definite relationship among the vocational agriculture graduates' total mean participation scores in all organized groups exists when related to farm production and management practices used. As the extent that these farm production and management practices were used increased, the total mean participation scores in all organized groups increased, showing a positive relationship. The data in Table 87 regarding nonvocational agriculture graduates fails to establish any relationship of total mean participation scores in all organized groups when compared to farm production and management practices used. As the extent to which the farm production and management practices used increased, the total mean participation scores in all organized groups failed to show any definite trend for the nonvocational agriculture group.

Total mean participation scores in all organized groups as related to type of records are shown in Table 88. Both the vocational agriculture and nonvocational agriculture groups show a positive relationship between the total mean participation scores in all organized groups and type of records used. As the more detailed records are used, the total mean participation scores increase correspondingly. A closer inspection of the data reveals that the vocational agriculture group has a tendency for the relationship to be slightly more positive since the total mean

Table 87. Total mean participation scores in all organized groups as related to farm production and management practices used

Extent used	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Always	27.74	26.55	26.97	24.32		26.43	24.88	26.98	25.28	
Usually	28.36	25.99	26.07	23.34		27.96	24.99	26.24	24.36	
Frequently	27.87	25.35	25.16	23.94		28.06	24.39	25.34	24.57	
Seldom	27.35	25.24	25.15	23.22		26.93	23.38	26.57	24.26	
Never	26.94	24.30	25.82	23.58		26.15	24.25	24.90	24.66	
Does not apply	24.12	24.86	26.04	23.22		27.13	24.83	26.33	24.06	
Mean	27.70	25.80	26.25	23.90	25.91	26.80	24.60	26.40	24.72	25.63
1963 mean	26.90	26.57	27.09	26.65	26.82	26.64	24.39	25.83	27.96	26.55

Table 88. Total mean participation scores in all organized groups as related to type of farm records used

Type	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
None	25.00	24.50	25.50	26.00		25.50	24.75	24.00	23.33	
Receipts, expenditures and depreciation	25.40	20.00	24.33	23.00		25.00	25.00	25.80	26.00	
Receipts, expenditures and depreciation plus one other	28.60	24.50	26.08	24.18		27.62	24.50	27.75	24.45	
Receipts, expenditures and depreciation plus two others	26.38	25.75	27.20	22.53		26.80	24.20	26.62	24.20	
Receipts, expenditures and depreciation plus net worth, analysis and inventories	28.69	27.82	26.23	25.80		27.10	25.50	25.00	26.12	
Mean	27.70	25.80	26.25	23.90	25.91	26.80	24.60	26.40	24.72	25.63
1963 mean	26.90	26.57	27.09	26.65	26.82	26.64	24.39	25.83	27.96	26.55

participation scores in all organized groups increased slightly more rapidly. This can be noted by comparing the participation scores of the vocational agriculture group in the more detailed type of record category with the total mean participation scores of the nonvocational agriculture group in the same category.

Data in Table 89 reveal the total mean participation scores in all organized groups as related to acres farmed. The data indicate that the total mean participation scores in all organized groups for the vocational agriculture graduates remain quite constant, regardless of the number of acres farmed. In the nonvocational agriculture group, the total mean participation scores in all organized groups remain constant until the graduates were classified in the 321-420 acre category or higher. The nonvocational agriculture graduates who were farming the larger farms, which included the ranges 321-420, 421-520 and 521 or over, obtained total mean participation scores in all organized groups which dropped off considerably.

As seen in Table 90, the total mean participation scores in all organized groups are related to total gross product. Total mean participation scores in organized groups for the vocational agriculture graduates appear to have increased with each increase in range of total gross product through the $8,100-$10,000 range, at which time the scores appear to level off and remain about the same throughout the total gross product range. The total mean participation scores in all organized groups for the nonvocational agriculture graduates appear to have increased steadily up to and including the $10,100-$12,000 bracket,

Table 89. Total mean participation scores in all organized groups as related to number of acres farmed

Range in acres	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
1-80	--	--	32.00	24.50		23.67	--	24.17	23.50	
81-120	--	26.20	22.50	22.71		24.75	24.28	30.50	24.50	
121-160	25.67	25.73	25.71	26.00		27.85	24.75	24.88	25.54	
161-200	28.25	24.80	25.86	23.75		27.50	25.17	26.83	23.60	
201-240	27.12	28.33	24.86	23.83		26.75	25.00	29.28	23.83	
241-280	30.75	21.50	29.60	21.50		30.00	26.00	26.50	25.00	
281-320	24.67	24.33	26.00	22.60		33.00	24.50	24.20	25.00	
321-420	23.00	28.50	--	25.00		22.50	23.33	29.67	28.00	
421-520	26.50	26.00	26.00	22.00		--	24.00	22.00	--	
521 or over	30.25	27.50	--	--		--	--	--	22.33	
Mean	27.70	25.80	26.25	23.90	25.91	26.80	24.60	26.40	24.72	25.63
1963 mean	26.90	26.57	27.09	26.65	26.82	26.64	24.39	25.83	27.96	26.55

Table 90. Total mean participation scores in all organized groups as related to total gross product

Range in dollars	Vocational agriculture school					Nonvocational agriculture school				
	Parent owner		Parent nonowner			Parent owner		Parent nonowner		
	1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
100-2,000	--	20.00	--	22.83		24.00	25.33	21.50	23.50	
2,100-4,000	28.00	25.00	23.50	24.88		24.50	24.33	25.00	23.87	
4,100-6,000	27.50	25.94	26.91	22.09		26.00	23.83	24.80	24.94	
6,100-8,000	26.36	26.60	25.22	22.00		26.00	24.71	27.00	25.38	
8,100-10,000	27.42	28.50	25.50	33.50		24.67	24.88	28.00	26.00	
10,100-12,000	35.00	22.50	25.60	25.00		33.00	30.00	28.75	25.00	
12,100-14,000	27.00	28.00	24.50	28.00		31.00	24.50	29.00	--	
14,100-18,000	26.50	30.00	29.67	28.00		28.33	--	--	--	
18,100 and over	29.20	--	--	27.00		--	--	22.00	--	
Mean	27.70	25.80	26.25	23.90	25.91	26.80	24.60	26.40	24.72	25.63
1963 mean	26.90	26.57	27.09	26.65	26.82	26.64	24.39	25.83	27.96	26.55

then drop off and level out throughout the rest of the range, except for the graduates who were in the $18,000 and over range. The scores for those in the highest range of total gross product dropped off considerably. It appears that as the graduates increased in total gross product they also increased their total mean participation scores in all organized groups.

The total mean scores for participation in all organized groups are shown in Table 91. The vocational agriculture group had a higher group mean of 25.92 than the group mean of 25.63 for the nonvocational agriculture group. The data indicate that the first period graduates had a group mean score of 26.78 as compared with a group mean score of 24.76 for the second period graduates. Those graduates whose parents were classified as owners had a group mean of 26.22, compared with the group mean of 25.32 for the graduates whose parents were classified as nonowners. On closer investigation among the vocational agriculture graduates, the data in Table 91 show that the first period graduates exceeded the second period graduates with a total mean score of 26.98 compared with a total mean score of 24.85. The first period graduates in the nonvocational agriculture group had a total mean score of 26.60 as compared with the smaller score of 24.66 for the second period graduates within the same group.

The F values obtained in an analysis of variance test of the responses of the two groups of graduates revealed no significant differences.

Table 92 shows the total mean scores for participation in farm

Table 91. Total mean scores for participation in all organized groups

Period of graduation	Parental classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	27.70	26.80	27.25
	Nonowner	26.25	26.40	26.32
	Both	26.98	26.60	26.78
1949-1954	Owner	25.80	24.60	25.20
	Nonowner	23.90	24.72	24.31
	Both	24.85	24.66	24.76
Both periods	Owner	26.75	25.70	26.22
	Nonowner	25.08	25.56	25.32
	Both	25.92	25.63	25.78

organizations. Information regarding all of the participation scores in farm organizations with those scores for participation in church groups removed is shown in Table 92. The vocational agriculture graduates had a group mean of 18.66, as compared with the smaller group mean of 17.95 for the nonvocational agriculture graduates. Among the vocational agriculture graduates, the data discloses that the first period graduates had group mean scores of 19.44, as compared with the group mean score of 17.88 for the second period graduates. The vocational agriculture graduates whose parents were classified as owners had total mean scores for participation in farm organizations of 19.24, which was considerably higher than the score of 18.08 for the graduates whose parents were classified as nonowners. Among the nonvocational agriculture graduates, the first period graduates outscored the second period graduates in the total mean scores for participation in farm organizations. The first period graduates had a participation score of 18.66,

Table 92. Total mean scores for participation in farm organizations

Period of graduation	Parent classification	Vocational agriculture	Nonvocational agriculture	Both
1943-1948	Owner	19.80	18.92	19.36
	Nonowner	19.07	18.40	18.73
	Both	19.44	18.66	19.04
1949-1954	Owner	18.68	17.30	17.99
	Nonowner	17.08	17.17	17.13
	Both	17.88	17.24	17.56
Both periods	Owner	19.24	18.11	18.67
	Nonowner	18.08	17.78	17.93
	Both	18.66	17.95	18.30

compared with 17.24 for the second period graduates in the nonvocational agriculture group. These data illustrate that the high school graduates who had parents that were classified as farmowners have an advantage over the graduates whose parents were classified as nonowners when measured in terms of participation scores in farm organizations. They also show that the mean participation scores in farm organizations increase as the farmer becomes established and has been farming for longer periods of time. The data also show that the vocational agriculture graduates participate more in farm organizations than the nonvocational agriculture graduates.

An analysis of variance test of the responses of the two groups of graduates for participation in farm organizations was made. No significant difference was found.

Table 93 shows a summary of the mean participation scores in twenty organized groups. These data were tabled to facilitate comparison of the twenty different organizations in the original study and the 1963 mean scores. This information discloses that the 1963 mean showed increases in mean participation scores for the vocational agriculture graduates in the following: 4-H Club, Farm Bureau, Farmers' Union, Farmers' cooperatives, crop improvement associations, adult farmer classes, church attendance, Sunday school, choir, youth and young married people's church group and men's church organizations. The 1963 means indicated that the vocational agriculture graduates were participating less in Farm Bureau young people's group, Future Farmers of America, National Farmers Organization, farmers' record association, a livestock, poultry, breed or dairy herd association, Agricultural Conservation Program, Soil Conservation Service and young farmer classes.

In Table 93 the 1963 means disclose that the nonvocational agriculture graduates participated more in 4-H Clubs, Future Farmers of America, Farm Bureau, farmers' cooperatives, farmers' record association, a livestock, poultry breed or dairy herd association, crop improvement association, young farmer classes, adult farmer classes, church, Sunday school, youth or young married people's church group, and church men's organizations. The 1963 data also disclose that the nonvocational agriculture graduates participated less in Farm Bureau young people's group, National Farmers Organization, Agricultural Conservation Program and Soil Conservation Service.

Table 93. Summary of mean participation scores in twenty organized groups

Organizations		Vocational agriculture school					Nonvocational agriculture school				
		Parent owner		Parent nonowner			Parent owner		Parent nonowner		
		1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Farm Bureau Young People	(1955)	1.20	1.10	1.12	1.20	1.16	1.20	1.22	1.12	1.15	1.17
	(1963)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.15	1.05
4-H Club	(1955)	1.15	1.32	1.02	1.15	1.16	1.00	1.20	1.20	1.18	1.15
	(1963)	1.48	1.19	1.00	1.75	1.31	1.32	1.25	1.22	1.00	1.19
Future Farmers	(1955)	1.02	1.22	1.12	1.10	1.12	1.00	1.00	1.00	1.00	1.00
	(1963)	1.00	1.33	1.00	1.00	1.08	1.00	1.00	1.06	1.00	1.01
Farm Bureau	(1955)	2.38	1.68	1.82	1.38	1.82	2.00	1.52	1.72	1.28	1.63
	(1963)	1.78	2.14	2.07	2.06	2.00	1.44	1.69	1.33	1.62	1.64
The Grange	(1955)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	(1963)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Farmers' Union	(1955)	1.00	1.00	1.00	1.02	1.00	1.00	1.00	1.02	1.02	1.01
	(1963)	1.04	1.05	1.10	1.00	1.05	1.00	1.00	1.00	1.04	1.01
National Farmers Org.	(1955)	1.50	1.38	1.38	1.10	1.34	1.30	1.22	1.38	1.22	1.28
	(1963)	1.63	1.14	1.10	1.13	1.27	1.32	1.00	1.06	1.15	1.15
Farmers' Cooperatives	(1955)	1.72	1.52	1.75	1.28	1.57	1.70	1.35	1.62	1.45	1.53
	(1963)	1.81	1.86	2.00	1.69	1.86	1.84	1.63	1.67	2.00	1.81

Table 93. (Continued)

Organizations		Vocational agriculture school					Nonvocational agriculture school				
		Parent owner		Parent nonowner			Parent owner		Parent nonowner		
		1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Farmers' record ass'n.	(1955)	1.05	1.12	1.00	1.02	1.05	1.02	1.02	1.00	1.02	1.01
	(1963)	1.04	1.05	1.00	1.06	1.03	1.04	1.06	1.00	1.04	1.04
Livestock,poultry,breed or dairy herd ass'n.	(1955)	1.45	1.25	1.62	1.25	1.39	1.25	1.12	1.38	1.12	1.22
	(1963)	1.33	1.19	1.45	1.31	1.33	1.44	1.25	1.06	1.46	1.33
Crop improvement ass'n	(1955)	1.07	1.02	1.00	1.00	1.02	1.08	1.00	1.02	1.00	1.03
	(1963)	1.11	1.05	1.03	1.06	1.06	1.16	1.00	1.11	1.00	1.07
Agri. Cons. Program	(1955)	1.62	1.40	1.45	1.15	1.41	1.85	1.32	1.52	1.42	1.53
	(1963)	1.19	1.05	1.69	1.00	1.28	1.08	1.00	1.06	1.19	1.09
Soil Cons. Service	(1955)	1.25	1.22	1.25	1.12	1.21	1.20	1.18	1.18	1.18	1.19
	(1963)	1.15	1.14	1.17	1.13	1.15	1.28	1.13	1.11	1.12	1.16
Young farmer classes	(1955)	1.05	1.25	1.18	1.22	1.18	1.12	1.05	1.05	1.02	1.06
	(1963)	1.00	1.24	1.21	1.19	1.15	1.00	1.19	1.11	1.04	1.07
Adult farmer classes	(1955)	1.32	1.18	1.35	1.07	1.23	1.20	1.07	1.18	1.10	1.14
	(1963)	1.22	1.52	1.10	1.13	1.24	1.20	1.31	1.17	1.42	1.28
Church	(1955)	2.38	2.05	2.35	1.95	2.18	2.62	2.18	2.58	2.10	2.40
	(1963)	2.67	2.38	2.48	2.63	2.54	2.76	2.31	2.38	2.92	2.65

Table 93. (Continued)

Organizations		Vocational agriculture school					Nonvocational agriculture school				
		Parent owner		Parent nonowner			Parent owner		Parent nonowner		
		1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Sunday school	(1955)	1.50	1.60	1.38	1.60	1.52	1.62	1.48	1.48	1.65	1.58
	(1963)	1.52	1.52	1.52	2.13	1.62	1.56	1.25	2.28	2.31	1.88
Choir	(1955)	1.48	1.05	1.05	1.08	1.17	1.10	1.22	1.10	1.12	1.14
	(1963)	1.41	1.05	1.21	1.00	1.19	1.12	1.00	1.44	1.04	1.14
Youth or young married	(1955)	1.35	1.15	1.15	1.10	1.19	1.18	1.22	1.28	1.48	1.29
	(1963)	1.19	1.43	1.55	1.19	1.35	1.44	1.19	1.33	1.73	1.46
Men's church org.	(1955)	1.20	1.28	1.25	1.10	1.21	1.35	1.10	1.58	1.20	1.31
	(1963)	1.33	1.24	1.41	1.19	1.31	1.64	1.13	1.44	1.73	1.53
Group mean	(1955)	1.39	1.29	1.31	1.20	1.30	1.34	1.23	1.32	1.24	1.29
Group mean	(1963)	1.33	1.33	1.36	1.33	1.34	1.35	1.25	1.29	1.40	1.33

A summary of mean participation scores in organized groups by area is presented in Table 94. These data were summarized for convenience in observing the main effects and results in this study.

1963 Follow-up

In 1963 a short questionnaire was sent to each of the 320 high school graduates who were included in this study. The purpose of this follow-up study was to update and validate the data. The 1963 data are summarized in Tables 95, 96 and 97.

The response summary of the 1963 data is presented in Table 95. Two hundred fifteen of the 320 graduates responded to the questionnaire for a response of 67.19 percent. A total of 114 of the vocational agriculture graduates for a percentage of 71.250, and 101 of the nonvocational agriculture graduates for a percentage of 63.125, responded to the questionnaire. The data in Table 95 also disclose that of the vocational agriculture group that responded, 92 were farming for a percentage of 80.7; and 22 were not farming for a percentage of 19.3. In the nonvocational agriculture group, 85 of the respondents were farming for a percentage of 84.16, and 16 of the respondents were not farming for a percentage of 15.84. A total of these two groups reveals that 177 of the 215 questionnaire respondents, for a total percentage of 82.33, were farming. Thirty eight of the 215 respondents were not farming, for a total percentage of 17.67. Other information included in the table discloses that 79 of the 320 did not respond to

Table 94. Summary of mean participation scores in organized groups by areas

Areas		Vocational agriculture school					Nonvocational agriculture school				
		Parent owner		Parent nonowner			Parent owner		Parent nonowner		
		1943 1948	1949 1954	1943 1948	1949 1954	Group mean	1943 1948	1949 1954	1943 1948	1949 1954	Group mean
Youth organizations	(1955)	3.38	3.65	3.28	3.45	3.44	3.20	3.42	3.32	3.32	3.32
	(1963)	3.48	3.52	3.00	3.75	3.39	3.32	3.25	3.28	3.15	3.24
Farm organizations	(1955)	5.88	5.06	5.20	4.50	5.16	5.30	4.75	5.12	4.52	4.92
	(1963)	5.45	5.33	5.27	5.19	5.32	4.76	4.69	4.39	4.81	4.80
Cooperatives	(1955)	1.72	1.52	1.75	1.28	1.57	1.70	1.35	1.62	1.45	1.53
	(1963)	1.81	1.86	2.00	1.69	1.86	1.84	1.63	1.67	2.00	1.81
Farm service organizations	(1955)	6.45	6.02	6.32	5.55	6.09	6.40	5.65	6.10	5.75	5.98
	(1963)	5.82	5.48	6.34	5.56	5.85	6.00	5.44	5.34	5.81	5.69
Young and adult farmer classes	(1955)	2.38	2.42	2.52	2.30	2.41	2.32	2.18	2.22	2.12	2.20
	(1963)	2.22	2.76	2.31	2.32	2.39	2.20	2.50	2.28	2.46	2.35
Church organizations	(1955)	7.90	7.12	7.18	6.82	7.26	7.88	7.30	8.00	7.55	7.68
	(1963)	8.12	7.62	8.17	8.14	8.01	8.52	6.88	8.87	9.73	8.66
All organized groups	(1955)	27.70	25.80	26.25	23.90	25.91	26.80	24.60	26.40	24.72	25.63
	(1963)	26.90	26.57	27.09	26.65	26.82	26.64	24.39	25.83	27.96	26.55

Table 95. Response summary of 1963 data

	Vocational agriculture		Nonvocational agriculture		Total	
	Number	Percent	Number	Percent	Number	Percent
Responded:	114	71.250	101	63.125	215	67.190
Farming	92	80.70	85	84.16	177	82.33
Not farming	22	19.30	16	15.84	38	17.67
No response	32	20.000	47	29.375	79	24.69
No address	10	6.250	12	7.500	22	6.88
Missing	1	.625			1	.31
Deceased	2	1.250			2	.62
Farm hand	1	.625			1	.31
Totals	160	100.00	160	100.00	320	100.00

the questionnaire, 22 had no forwarding address, one of the original names was missing, two were deceased, and one farm hand with no participation scores responded.

The changes in mean participation scores from the original data to the 1963 follow-up are shown in Table 96. The original study participation scores for each of the 177 respondents to the 1963 questionnaire were matched and the results are illustrated in Table 96. The 1955 mean participation score for the 177 high school graduates who responded to the 1963 questionnaire was 26.46, as compared with their 1963 participation score of 26.61. An analysis of variance test of the mean participation scores computed for the 177 graduates in 1955 and 1963 was made. An insignificant F value of .122 revealed that the participation

Table 96. Change in mean participation scores

Year	Number	Vocational agriculture (N = 92)	Nonvocational agriculture (N = 85)	Mean (N = 177)
1955	177	26.62	26.28	26.46
1963	177	26.71	26.50	26.61
Mean		26.67	26.39	26.53

score for the two different years of response for the 177 graduates who were farming in 1963 were so similar that the difference could not be detected by an analysis of variance.

The change in farming status is presented in Table 97. The 177 graduates who were included in the 1963 follow-up study reported their 1963 farming status. Weighted status means were determined for both groups by assigning numerical weights ranging from 1 to 9 to each level of status on a nine-point scale. The weighted status mean represents the average status for each group of graduates. The 1955 weighted status mean for the vocational agriculture group was 5.11, as compared with the 1963 weighted status mean for the same group of 6.26. These data indicate that the vocational agriculture graduates had increased their farming status by one full step plus a little more in the status scale. The nonvocational agriculture graduates also increased their average status by a little over one step in the status scale.

The data in Table 97 reveal that in 1955, 13.04 percent of the vocational agriculture graduates were in the first three status categories,

Table 97. Change in farming status

Status	Weight	Vocational agriculture					Nonvocational agriculture				
		1955		1963			1955		1963		
		No.	%	No.	%	Diff.	No.	%	No.	%	Diff.
Without definite wages	1	4	4.35	0	-	-4	4	4.71	0	-	-4
With definite wages	2	2	2.17	0	-	-2	5	5.88	1	1.18	-4
With or without wages plus a share of the profits	2	6	6.52	4	4.35	-2	5	5.88	3	3.53	-2
Total			13.04		4.35			16.47		4.71	
Income sharing agreement or partnership	4	9	9.78	15	16.30	+6	12	14.12	12	14.12	0
Livestock share lease	5	28	30.43	9	9.78	-19	22	25.88	6	7.06	-16
Crop share lease	6	37	40.23	29	31.53	-8	30	35.29	33	38.82	+3
Total			80.44		57.61			75.29		60.00	
Cash lease	7	4	4.35	7	7.61	+3	4	4.71	11	12.94	+7
Total			4.35		7.61			4.71		12.94	
Part owner-operator	8	0	-	16	17.39	+16	0	-	11	12.94	+11
Owner-operator	9	2	2.17	12	13.04	+10	3	3.53	8	9.41	+5
Total			2.17		30.43			3.53		22.35	
Grand total		92	100.00	92	100.00		85	100.00	85	100.00	
1955 weighted status mean					5.11					4.96	
1963 weighted status mean					6.26					6.16	

as compared with 16.47 percent for the nonvocational agriculture graduates. These data indicate that more of the nonvocational agriculture graduates were in the first three status groups in 1955. Comparing the 1963 data, 4.35 percent of the vocational agriculture graduates were in the first three status categories, compared with the 4.71 percent for the nonvocational agriculture graduates. These findings indicate that more of the nonvocational agriculture graduates moved out of the first three status categories.

A further investigation of these data discloses that 80.44 percent of the vocational agriculture graduates were in the next three status categories, which included partnership on the entire farm, livestock share lease and crop share lease, as compared with the 75.29 percent in the same three categories among the nonvocational agriculture graduates. It was found in 1963 that 57.61 percent of the vocational agriculture graduates were in the third, fourth and fifth status categories, as compared with 60 percent for the nonvocational agriculture graduates.

These data also reveal that in 1955, 4.35 percent of the vocational agriculture group were in the cash lease status as compared with 4.71 percent for the nonvocational agriculture graduates. In 1963, 7.61 percent of the vocational agriculture graduates were in the cash lease category, as compared with the 12.94 percent for the nonvocational agriculture graduates. In 1955, 2.17 percent of the vocational agriculture graduates were in the two highest status categories, namely part owner-operator and owner-operator of entire farm, as compared with 3.53 percent

of the nonvocational agriculture graduates who were in the same two categories. The data in 1963 reveal that 30.43 percent of the vocational agriculture graduates were part owner-operators or owner-operator of the entire farm, as compared with the 22.35 percent for the nonvocational agriculture group. These data reveal that the vocational agriculture graduates moved into the higher status categories at a much higher rate than the nonvocational agriculture graduates. Considerably more of the vocational agriculture graduates were found to be part owner-operators or owner-operators of the entire farm in 1963. Table 97 points out the difference in farming status from 1955 to 1963. It is revealing to note that 26 of the vocational agriculture graduates moved into the part owner-operator and owner-operator categories, while 16 of the nonvocational agriculture graduates made this move.

An investigation of these data regarding the 38 respondents in 1963 who were not farming disclosed that 22 of them were vocational agriculture graduates and 16 were nonvocational agriculture graduates. Eleven of the 22 vocational agriculture graduates were in farm-related occupations, and 11 were in nonfarm-related occupations. In the nonvocational agriculture group, 7 or 43.75 percent of the 16 were in farm-related occupations; and 9 or 56.25 percent of them were in nonfarm-related occupations. The farm-related occupations in which the vocational agriculture graduates were engaged included banking, farm management, dairy herd improvement association, factory worker for John Deere Implement Company, feed sales, sales manager for a large feed

company, fertilizer and feed business, lumber company, Farm Bureau Insurance, turkey plant laborer and owner-operator of portable feed mill. The nonfarm-related occupations in which the vocational agriculture graduates were employed were cabinet maker, electrician, assistant engineer for an institution, highway commission maintenance, mechanic, postal clerk, radio announcer, student at a university, high school coach and toolbox inspector. In the nonvocational agriculture group, the farm-related occupations in which the graduates were engaged were agricultural chemical plant manager, terminal grain export manager, elevator manager, feed business, meat process foreman and district manager for feed company. The nonfarm-related occupations in which the nonvocational agriculture graduates were occupied were carpenter, factory worker, highway commission laborer, laborer, U. S. Navy, postal clerk, route salesman and student at a university.

Positive relationships were found among the high school vocational agriculture program, participation in organized groups and establishment in farming. This may be due to fundamental basic training in farm management practices and outstanding leadership training obtained in a sound vocational agriculture program. The vocational agriculture instructor teaches the basic concepts of farm crops and soils, animal science, farm mechanics and farm management in the classroom and farm shop. He then is expected to spend considerable time with the vocational aspect of the program in on-farm supervised training with the

students' farming programs. The vocational agriculture instructor is also expected to serve as adviser and spend part of his time with the Future Farmers of America. The supervised farming program provides an excellent opportunity to teach the basic and practical aspects of farming. The Future Farmers of America present an unequaled opportunity for the instructor to give the students training in all types of leadership activities.

Vocational agriculture instructors must constantly evaluate their programs to make sure that they are fulfilling the purposes of the complete vocational agriculture program. In many instances the vocational agriculture instructor may become involved with time-consuming activities which do not contribute to the fundamental purposes of the organizations.

This study reveals that vocational agriculture graduates do participate more in farm organizations. However, the nonvocational agriculture graduates exceeded the vocational agriculture graduates in participation in church organizations. This may be due to the phenomenon that the nonvocational agriculture graduates are not participating in other organizations as much, therefore have more time to participate in church organizations. Perhaps this aspect of the study should be given further investigation.

Leaders in the field of vocational agriculture and agricultural education are at the present time carefully evaluating their own programs, and the findings in this study indicate that if and when

the vocational agriculture program is expanded to include a training program, terminal or partial, for boys interested in farm-related occupations, a sound leadership training program should be provided.

SUMMARY

This study is one part of a broader investigation conducted cooperatively with other graduate students in Agricultural Education at Iowa State University. The purpose of the entire study was to determine the influence of vocational agriculture on the establishment of graduates in farming.

The purpose of this particular investigation was to determine the relationship of high school vocational agriculture, participation in organized groups and the establishment in farming.

The five graduate students who participated in the investigation cooperated in preparing the schedule, selecting the sample, conducting the personal interviews and processing the data. Mail questionnaires were used to procure the 1963 follow-up data.

The prepared schedule included 20 farm organizations and organized group activities commonly found in rural communities in central and east central Iowa.

Schools in the central cash grain area and eastern livestock areas of Iowa which offered vocational agriculture during at least eleven of the twelve years from 1943 through 1954 were paired with schools that did not offer vocational agriculture during the same period. From the 45 pairings that were made, 20 pairs were drawn at random to make up the 40 schools used in this study.

The male graduate who was farming during the calendar year 1955 was defined as a graduate who spent fifty percent or more of his time

on a farm and who received fifty percent or more of his income from farming. Only those farmers with three or more years of vocational agriculture were considered as vocational agriculture graduates. Non-vocational agriculture graduates were those who attended the high schools that did not offer vocational agriculture.

The graduates of each community were classified into the following four groups:

(1) Graduates who completed high school during the 1943-1948 period of years and were sons of landowners.

(2) Graduates who completed high school during the 1943-1948 period of years and were sons of nonlandowners.

(3) Graduates who completed high school during the 1949-1954 period of years and were sons of landowners

(4) Graduates who completed high school during the 1949-1954 period of years and were sons of nonlandowners.

A random sample of two graduates was drawn from each of four groups for a total of eight male graduates from each of the 40 communities. This resulted in a total of 320 graduates being personally interviewed for this entire study. For the 1963 follow-up portion of the study, questionnaires were prepared and mailed to all of the 320 graduates who were previously personally interviewed.

The 20 organizations included in the schedule were classified into the following six groups: (1) Youth Organizations; Farm Bureau Young People, 4-H, and Future Farmers of America. (2) Farm Organizations; Farm Bureau, The Grange, Farmers Union and National Farmers

Organization. (3) Cooperative Organizations; A Farmer's Cooperative. (4) Farm Service Organizations; Farm Record Association, A Livestock Poultry Breed or Dairy Herd Improvement Association, A Crop Improvement Association, A. C. P. (formerly P. M. A.), Soil Conservation Service. (5) Young and Adult Farmer Classes; Young Farmer Class and Adult Farmer Class. (6) Church Organizations; Church, Sunday School, Choir (Church), Young or Young Married Organizations (Church), Men's Organizations (Church).

Numerical values for participation in each of the 20 organizations were recorded and totaled for each of the 320 graduates. Scores for the responses of each of the 320 graduates in each of the organized activities of the six groups of organizations were totaled. A total score representing the extent of participation by each classification of the 320 graduates was obtained by adding the total score for each of the 40 graduates in each of the eight classifications included in the design of this study.

Mean scores representing the extent of participation of graduates in the various classifications were obtained by dividing the total participation score for each classification by the number within the classification. The participation score for each classification was further broken down for closer investigation. This closer investigation provided a study of the relationship of the six groups of organizations as broken into the eight classifications and the following: size of home farm, number of years farmed, number of years attended college, farming status of the graduates at the time of this study, farm management practices

used in farm records, farm production and management practices, type of farm records used, total acres farmed and total gross product. Mean scores representing the extent of participation of graduates in the 1963 follow-up study were also obtained and reported.

A test for significance of the difference in scores indicating the extent of participation by each of the 177 graduates who participated in the 1963 follow-up study and their respective participation scores in the original study was made with an analysis of variance. The test of significance showed a nonsignificant F value of .122, indicating that the participation scores achieved in the 1963 follow-up study were very similar to the original participation scores recorded. Analysis of variance was computed for participation of the two groups of graduates in each of the 20 organizations and in each of the six groups of organizations.

The factors of parental ownership status and period of years in which the farmers were graduated from high school were held in control throughout all of the comparisons involved in the pairing of the experimental group with the control group.

When the two groups of farmers were compared on the basis of participation in youth organizations, it was found that:

1. The graduates of the vocational agriculture schools participated in youth organizations to a greater extent than the graduates of the nonvocational agriculture schools. Although the vocational agriculture graduates had a higher mean score, the difference in the extent of participation in youth

organizations was not significant.

2. A definite relationship existed between the participation scores in youth organizations and the size of the home farm. As the range in acres of the home farm increased, the participation scores increased.
3. When participation scores in youth organizations were related to the number of years farmed, the mean participation scores decreased after the sixth or seventh year that the graduate farmed.
4. Among those graduates who attended college, the mean participation scores dropped off after the first two years.
5. The vocational agriculture group made a more steady increase in mean participation scores up through a higher farm status level than the nonvocational agriculture group.
6. The graduates from the vocational agriculture schools had higher mean participation scores when they were using more of the accepted practices in record keeping, whereas the graduates of the nonvocational agriculture schools had higher scores when they were using less accepted practices in record keeping.
7. A high relationship existed between the use of approved production and management practices and participation in youth organizations, among the vocational agriculture group. In the nonvocational agriculture group there was found to be no relationship between participation scores in youth organizations and the use of approved farm production and management prac-

tices.

8. A high relationship existed between participation scores in youth organizations and the use of more detailed types of farm records for both groups of graduates.
9. No relationship existed for either group of graduates when mean participation scores in youth organizations were related to number of acres farmed.
10. Both groups of graduates increased in mean participation scores as the range in dollars of total gross product increased. The nonvocational agriculture group increased in mean participation scores to a higher gross product range than the vocational agriculture graduates.

When the two groups of farmers were compared on the basis of participation in farm organizations, it was found that:

1. In both the vocational agriculture group and the nonvocational agriculture group, a definite relationship existed between participation scores achieved in farm organizations and number of years farmed. The participation scores increased as the number of years farmed increased.
2. Both the vocational agriculture graduates and the nonvocational agriculture graduates had higher mean participation scores in farm organizations as the years attended college increased.
3. As the graduates became more established in farming, their participation scores in farm organizations increased except for those in the owner-operator status.

4. Very little relationship existed between the mean participation scores in farm organizations and farm management practices used in farm records.
5. The vocational agriculture group had increasingly higher mean participation scores in farm organizations as the use of farm production and management practices increased. The mean participation scores in farm organizations for the nonvocational agriculture group were somewhat erratic as the practices used were increased.
6. Both groups of graduates showed a definite correlation of mean participation scores in farm organizations becoming higher as the more complicated farm records were used.
7. As the size of the farm increased, the mean participation scores in farm organizations among vocational agriculture graduates increased. On the other hand, among the nonvocational agriculture graduates, the mean participation scores in farm organizations decreased somewhat as the number of acres farmed increased.
8. As the total gross product increased, the mean participation scores in farm organizations for both groups increased.
9. The vocational agriculture graduates participated more in the Farm Bureau than nonvocational agriculture graduates. The difference approached significance when tested by an analysis of variance.
10. The first period graduates scored higher mean participation scores in the Farm Bureau than those in the second period of

graduation. The difference was significant at the one percent level.

11. The graduates whose parents were classified as owners scored higher mean participation scores in the Farm Bureau than those in the second period of graduation. The significance was at the one percent level for the difference.
12. A test of significance for participation in the farm organizations revealed an F value of 6.44 when comparing the graduation periods. This was significant at the five percent level. The difference was in favor of the first period graduates.

When the two groups of farmers were compared on the basis of participation in farmers' cooperatives, it was found that:

1. Group mean scores of 1.57 for the vocational agriculture graduates and 1.53 for the nonvocational agriculture graduates indicated a slight advantage in favor of the vocational agriculture graduates in the extent of participation in farmers' cooperatives.
2. Mean participation scores in farmers' cooperatives increased as the number of years farmed increased.
3. In the vocational agriculture group it was found that as the extent to which the approved farm management practices in farm records increased, the mean participation scores in farmers' cooperatives also increased. In the nonvocational agriculture group the mean participation scores in farmers' cooperatives seemed to increase until the "seldom" category

of extent the practices were used was reached, then dropped off some and tended to level off.

4. The mean participation scores in farmers' cooperatives for the vocational agriculture group increased at a faster rate than the mean participation scores for the nonvocational agriculture group as the extent of farm production and management practices were used.
5. As the vocational agriculture graduates used more complicated records, their mean participation scores in farmers' cooperatives increased; whereas the mean participation scores in farmers' cooperatives for the nonvocational agriculture group decreased as they used more complicated farm records.

When the two groups of graduates were compared on the basis of participation in farm service organizations, it was found that:

1. The mean participation scores of the graduates in both the vocational agriculture and nonvocational agriculture groups increased slightly as the farming status of the graduates increased.
2. In the main, both the vocational agriculture graduates and nonvocational agriculture graduates increased in mean participation scores as the extent to which farm production and management practices were used increased.
3. Both high school groups increased in mean participation scores as the better type of farm records were used.
4. No relationship existed among the graduates and their

participation scores in farm service organizations with number of acres farmed.

5. Mean participation scores in farm service organizations recorded by the vocational agriculture group steadily increased as the amount of total gross product increased. For comparison, the mean participation scores in farm service organizations reported by the nonvocational agriculture graduates also increased as the total gross product increased; however, they started dropping off at the $10,000-$12,000 bracket.
6. An analysis of variance test of the data concerning mean scores for participation in livestock, poultry, breed or dairy herd improvement associations produced an F value of 3.77 for the vocational agriculture status. This value approached significance.
7. An F value of 7.07 for the graduation period showed a significant difference at the one percent level held in favor of the 1943-1948 graduates' participation scores in livestock, poultry, breed or dairy herd improvement association.
8. An analysis of variance test for the differences in mean scores for participation in the Agricultural Conservation Program revealed an F value of 4.04, significant at the five percent level, in favor of the graduates whose parents were classified as owners.
9. A highly significant F value of 22.46 in an analysis of variance for participation in the Agricultural Conservation Program

was revealed in favor of the early period graduates.

When the two groups of graduates were compared on the basis of participation in young and adult farmer classes, it was found that:

1. A definite relationship existed between the participation scores in young and adult farmer classes and farm management practices in farm records, for both the vocational agriculture and nonvocational agriculture groups.
2. The mean participation scores in young and adult farmer classes by the vocational agriculture graduates definitely increased as the use of farm production and management practices increased. On the other hand, the nonvocational agriculture graduates made very little change in mean participation scores in young and adult farmer classes as the use of farm production and management practices was increased.
3. An analysis of variance for participation in young farmer classes produced an F value of 4.25, indicating a significant difference at the five percent level in favor of the vocational agriculture graduates in the extent of participation in young farmer classes.
4. An F value of 7.71 indicated a significant difference at the one percent level in favor of the early period graduates in the extent of participation in adult farmer classes.
5. An analysis of variance testing the differences among participation scores in young and adult farmer classes combined revealed an F value of 3.38, approaching significance, with

the difference in favor of the vocational agriculture group.

In a comparison of the two groups of farmers on the basis of participation in church organizations, it was found that:

1. In the main, the graduates who had been farming for a longer period of time participated more in church organizations. This phenomenon was also displayed in the increase of participation scores in the 1963 follow-up study.
2. Mean participation scores in church organizations increased as the graduates attended more years of college.
3. Mean participation scores in church organizations recorded by the vocational agriculture group remained quite consistent regardless of farming status. In comparison, the nonvocational agriculture group recorded higher mean participation scores in church organizations among those graduates who were in the four lower status groups.
4. The nonvocational agriculture group outscored the vocational agriculture group in mean participation scores in church organizations.
5. The vocational agriculture graduates scored higher mean participation scores in the highest category of records kept, whereas the nonvocational agriculture graduates had the highest mean participation scores in a lower classification.
6. An analysis of variance to test the differences between the two groups in mean participation scores in church organizations revealed an F value of 3.80, which approached significance in

favor of the nonvocational agriculture graduates.

7. An F value of 12.64 for the graduation period indicated a significant difference at the one percent level in favor of the early period graduates.
8. An F value of 48.00 for the interaction of vocational agriculture with ownership status indicated a highly significant difference.

When the two groups of graduates were compared on the basis of participation in all organized groups combined, it was found that:

1. There was a positive relationship of total mean participation scores in all organized groups for both groups of graduates when related to the number of years farmed. As the number of years farmed increased, the total mean participation scores in all organized groups increased.
2. In both groups of graduates the mean participation scores in all organized groups obviously increased as the number of years attended college increased.
3. The total mean participation scores in all organized groups among the vocational agriculture graduates increased as the status in farming increased, up to and including the livestock share lease status, then tended to level off and remain the same. Among the nonvocational agriculture graduates, the total mean participation scores in all organizations had a tendency to be somewhat irregular from status to status, and

no noticeable trend could be observed.

4. When the total mean participation scores in all organized groups for the vocational agriculture graduates were related to the farm management practices in farm records it was found that a high relationship existed. As the farm management practices in farm records increased in extent, the mean participation scores in all organized groups also increased. It was found that among the nonvocational agriculture graduates there was no definite relationship between total mean participation scores in all organized groups and the extent that the farm management practices in farm records were used.
5. Among the vocational agriculture graduates, as the extent that farm production and management practices were used increased, the total mean participation scores in all organized groups increased, showing a positive relationship. No relationship was found between the total mean participation scores in all organized groups and the farm production and management practices used for the nonvocational agriculture group.
6. Both vocational agriculture and nonvocational agriculture groups showed a positive relationship between the total mean participation scores in all organized groups and the type of records used. As the more detailed records were used, the total mean participation scores increased correspondingly. The total mean participation scores in all organized groups for the

vocational agriculture graduates increased slightly more rapidly than those of the nonvocational agriculture group.

7. The graduates increased in total gross product as their total mean participation scores in all organizations increased, showing a positive relationship for both groups.

When the two groups of graduates were sent mail questionnaires for the 1963 follow-up study, it was found that:

1. A total of 215 of the 320 graduates responded to the questionnaire, for a total percentage of 67.19.
2. A total of 177 of the 215 questionnaire respondents, for a total percentage of 82.33, were farming.
3. The 1955 mean participation score for the 177 high school graduates who responded to the 1963 questionnaire was 26.46, as compared with their 1963 participation score of 26.61.
4. Both groups of graduates increased their average farming status by a little over one step in the status scale.
5. In 1963, 30.43 percent of the vocational agriculture graduates were part owner-operators or owner-operators of the entire farm, as compared with the 22.35 percent for the nonvocational agriculture group. The vocational agriculture graduates moved into the higher status category at a much faster rate than the nonvocational agriculture graduates.
6. A total of 26 of the vocational agriculture graduates moved into the part owner-operator and owner-operator categories, while 16 of the nonvocational agriculture graduates made this

move.

When compared on the basis of overall participation in all of the farm organizations, the high school graduates who had parents that were classified as owners had an advantage over the graduates whose parents were classified as nonowners. The mean participation scores increased as the farmers became established and had been farming for longer periods of time. Vocational agriculture graduates participated more in farm organizations than the nonvocational agriculture graduates.

The findings of this study indicated that the present program of the Iowa Future Farmers of America association is effective in meeting the objectives for which it was created. However, the findings did imply that additional stress should be placed on the basic fundamental purposes of farm cooperatives, farm service organizations and church groups. This study pointed out that vocational agriculture graduates had a high respect for the proper management practices used in good farm management, and at the same time participated more in many of the organizations. The findings in this study substantiated the leadership training that vocational agriculture graduates received in the Future Farmers of America in conjunction with the basic principles of agricultural science and approved farm management practices that are taught and implemented in the vocational agriculture program.

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APPENDIX

The Progress of High School Graduates In Becoming Established In Farming, 1943-1955

Iowa State College Agricultural Experiment Station
Project 1253

Approved by
IOWA DEPARTMENT OF PUBLIC INSTRUCTION
DIVISION OF VOCATIONAL EDUCATION
Des Moines, Iowa

Young farmers today face many problems in getting started in farming. Your experience will be very valuable to other beginning farmers. The information that you supply will be helpful to persons or agencies assisting young farmers in developing their programs.

Will you help us by supplying the information requested on the enclosed form? Your reply will be kept confidential.

THE DIVISION OF AGRICULTURE
of
THE IOWA STATE COLLEGE
Ames, Iowa

1. Name _____ 2. Age ____ 3. Address _____

4. Telephone _____ 5. High school from which you graduated _____ 6. Year 19____.
(exchange) (No.)

ON THE DAY YOU WERE GRADUATED FROM HIGH SCHOOL:

7. How many acres did your family farm? _____ Own? _____ Rent? _____

8. How many crop acres did your family farm? _____ Own? _____ Rent? _____

9. Was your father living at the time of your graduation? Yes____ No____

10. How many brothers did you have at time of your graduation? _____

11. How many acres of land did you personally own at that time? _____ Personally rent? _____

---

12. Have you been in active military service? Yes____ No____ If "yes": Total months served _____

13. Have you been enrolled in GI On-Farm Training? Yes____ No____

14. Are you married? Yes____ No____ If "yes": When were you married? _____

15. Since graduating from high school, how many years have you spent 1/2 or more of your time farming or working on a farm? _____

16. Have you attended any college? Yes____ No____ If "yes": How many years in:

Agriculture curriculum:	1 or less	2	3	4	5 or more
Other curriculum:	1 or less	2	3	4	5 or more

17. Have you attended any trade, commercial or military service school? Yes____ No____ If "yes": How many months of trade school? _____ Commercial school? _____ Military service school? _____

18. Did you spend 1/2 or more of the 1955 calendar year in farming or farm work? Yes____ No____

19. Did you receive 1/2 or more of your income during the 1955 calendar year from farming or farm work? Yes____
No____

20. What was your status in farming the first full year that you spent on the farm after graduation? What was your status during the calendar year 1955?

	First full year	Calendar year 1955
a. Working without definite wages		
b. Working with definite wages		
c. Working with or without wages plus a share of the profits of one or more livestock or crop enterprises		
d. Income-sharing agreement or partnership in the entire farm business		
e. Livestock share lease		
f. Crop share lease		
g. Cash lease		
h. Part-owner operator (own some land and rent some land)		
i. Owner operator (include farms owned and operated by partners)		

21. What year did you begin farming in your present status checked above? _____

22. Were you on the home farm during 1955? Yes____ No____

23. What is your exact income sharing agreement if any? _____

_____

_____

PARTICIPATION IN ORGANIZATIONS

24. Were you a member of any of these organizations during the calendar year 1955? (Check "yes" or "no".)

	Member		If "yes" were you a committee chairman, officer or leader? (Specify)
	Yes	No	
Farm Bureau Young People			
4-H			
FFA			
Farm Bureau			
The Grange			
Farmers' Union			
National Farmers Org. (NFO)			
A farmer's cooperative			
Farm Record Assoc.			
A livestock, poultry, breed or dairy herd Imp. Assoc.			
A crop Imp. Assoc.			
A. C. P. (Formerly P. M. A.)			
Soil Conservation Service (SCS)			
Young farmer class			
Adult farmer class			
Church			
Sunday School			
Choir (church)			
Youth or young married Org. (church)			
Mens Org. (church)			
Other (specify)			

25. In which of the above organizations did you serve as a committee chairman, officer or leader? _____

_____

CROP INFORMATION

Enter total farm production in all cases. Include your own share if you have an income sharing agreement.

1. How many acres of land did you have in your entire farm operation during the calendar year 1955? (This includes the farmstead and any other land farmed in addition to the home farm.) Total acres _____

2. How many acres of corn did you raise?		Avg. yield?		bu. or tons	Total	bu. or tons
3. How many acres of oats did you raise?		Avg. yield?			Total	
4. How many acres of soybeans did you raise?		Avg. yield?			Total	
5. How many acres of flax did you raise?		Avg. yield?			Total	
6. How many acres of wheat did you raise?		Avg. yield?			Total	
7. How many acres of barley did you raise?		Avg. yield?			Total	
8. How many acres of legumes for hay did you raise?		Avg. yield?			Total	
9. How many acres of grasses for hay did you raise?		Avg. yield?			Total	
10. How many acres of rotation pasture do you have?						
11. How many acres of permanent pasture do you have?						
12. Any other crops?		Avg. yield?			Total	

13. How many tillable crop acres on your farm during the calendar year 1955? _____

14. Did you sell any crop for seed? Yes____ No____ .

15. If "yes" please list: Kind _____ Amt. _____ bu.

LIVESTOCK INFORMATION

Enter total farm production in all cases. Include your own share if you have an income sharing arrangement.

	For the year 1955	
	Number	Average weight
SWINE:		
1. How many litters did you farrow during the calendar year 1955?		xxxxxxxx
2. How many pigs did you wean during the calendar year 1955?		xxxxxxxx
3. How many hogs did you sell for these purposes during the calendar year 1955?		
a. For slaughter?		
b. For breeding animals?		
c. For feeder pigs?		
4. How many hogs did you purchase for these purposes during the calendar year 1955?		
a. For breeding animals?		
b. For feeder pigs?		
BEEF:		
1. How many beef cows did you have as of January 1, 1955?		xxxxxxxx
2. How many beef cattle did you sell for these purposes during the calendar year 1955?		
a. Mature cows and bulls for breeding animals?		xxxxxxxx
b. Mature cows and bulls for slaughter?		
c. Young animals for breeding?		
d. For feeder calves?		
e. Fat cattle?		
3. How many beef cattle did you purchase for these purposes during the calendar year 1955?		
a. Mature cows and bulls for breeding animals?		
b. Mature cows and bulls for feeding animals?		
c. Young animals for breeding?		
d. For feeders?		
DAIRY:		
1. How many milk cows did you have as of January 1, 1955?		xxxxxxxx
2. How much milk and cream did you sell for these purposes during the calendar year 1955?		
a. Grade "A" (Milk)?		lbs.
b. Grade "B" (Milk)?		lbs.
c. Cream?		lbs.
3. How many dairy cattle did you sell for these purposes during the calendar year 1955?		
a. Mature cows and bulls for breeding?		
b. Mature cows and bulls for slaughter?		
c. Young stock for breeding?		
d. Young stock for slaughter?		
e. As vealers?		

LIVESTOCK INFORMATION (Continued)

	For the year 1955	
	Number	Average weight
4. How many dairy cattle did you purchase for these purposes during the calendar year 1955?		
a. Mature cows and bulls?		
b. Young stock?		

POULTRY:

1. How many hens and pullets did you have as of January 1, 1955?		
2. How many chickens did you sell during the calendar year 1955?		
3. How many eggs did you sell during the calendar year 1955?		
a. For hatching?	doz.	
b. For other than hatching?	doz.	
4. How many chickens did you purchase during the calendar year 1955?		
5. How many chicks did you purchase during the calendar year 1955?		
6. How many turkeys did you sell during the calendar year 1955?		
7. How many turkeys did you purchase during the calendar year 1955?		

SHEEP:

1. How many ewes did you have lamb during the calendar year 1955?		
2. How many sheep did you sell for these purposes during the calendar year 1955?		
a. Ewes and rams for breeding?		
b. Ewes and rams for slaughter?		
c. Lambs for breeding?		
d. Lambs for slaughter?		
3. How many sheep did you purchase for these purposes during the calendar year 1955?		
a. For breeding stock?		
b. For feeder lambs?		
4. How many pounds of wool did you sell during the calendar year 1955?	lbs.	

FARM PRODUCTION AND MANAGEMENT PRACTICES

To what extent did you use the following farm production and management practices in your farming operations during the 1943 - 1955 period of years?

Practice	Always	Usually	Frequently	Seldom	Never	Does not apply
Separate gilts from fattening herd before breeding time.						
Separate sows from breeding herd at least three days before farrowing.						
Use a complete set of guard rails or farrowing stalls.						
Castrate boar pigs before 8 weeks.						
Separate the castration, the vaccination and weaning by at least two weeks.						
Raise pigs on clean legume pasture.						
Use BHC (Benzene Hexachloride), lindane, or medicated mange oil to control mange or lice.						
Apply commercial fertilizer according to your soil test recommendations.						
Plow down a green manure crop.						
Renovate old worn down bluegrass pastures.						
Construct grass waterways.						
Use a rotation containing a legume.						
Check for corn borer every day by determining whether 50% of the plants show leaf damage or indications of feeding after corn is 30 inches high.						
Use insecticides to control corn root worm.						
Crib corn with 20% or less moisture content.						
Test home grown seed oats for germination before seeding.						
Clean home grown seed oats before seeding.						
Wipe cows udders and flanks before milking.						
Provide a protein supplement for dairy cows.						
Provide a protein supplement for beef cows.						
Dehorn calves as soon as nubbins begin to form on the skin.						
Use farm records in planning and managing cropping system.						
Use farm records in planning and managing livestock program.						
Use farm records in making use of labor, machinery and power.						

Did you keep the following types of information in your farm records during the calendar year 1955? (Check "Yes" or "No".)

	Yes	No
a. Receipts		
b. Expenditures		
c. Depreciation list		
d. Inventories		
e. Livestock production records		
f. Crop production records		
g. Farm map		
h. Home-used products		
i. Summary, income statement, net worth		
j. Analysis (example, such as pounds of feed per pound of gain, etc.)		
k. (Other)		

FARM MECHANICS SECTION

1. Do you have a building or a place in a building set up as a farm shop where you keep most of your tools? Yes___, No___.

   a. If "yes", give dimensions of the shop: _____feet by_____ feet.

   b. Can you drive a car or tractor into the shop? Yes_____ , No_____ .

   c. Is the shop heated? Yes___ , No___ .

2. Which of these items of equipment or tools do you have? (Check "yes" or "no".)

Tool or item of equipment	Yes	No
Blow torch		
Machinist's vise		
Pipe vise		
Woodworking vise		
Electric bench grinder		
Electric heavy duty grinder		
Portable electric drill (1/4" or 1/2")		

(Continued in next column)

Tool or item of equipment	Yes	No
Drill press (stand type)		
Tap and die set (screw plate)		
Pipe cutter and threader		
Electric arc welder		
Air compressor		
Portable electric circular hand saw		
Paint sprayer		
Portable cement mixer		
Oxy-acetylene welder		

3. Which of these jobs were done by you or someone else during the last five years? Was the job done once or more than once? Who usually did the job?

Jobs (If "no", check and proceed to next item or job)	Was job done during last 5 years?		If "yes", check appropriate columns.				
	Yes	No	Job was done once	Job was done more than once	You did job your-self	Job was done by family members or hired hands	Job was done by outside person
POWER AND MACHINERY							
Clean and adjust spark plugs							
Adjust carburetor							
Time distributor or magneto							
Adjust valve clearance							
Adjust clutch							
Repack and adjust wheel bearings							
Adjust brake shoes							
Adjust corn picker snapping rollers							
Check mower cutter bar alignment							
Replace ledger plates on mower							
Calibrate corn planter for hill spacing							
BUILDINGS AND CONVENIENCES							
Read a blueprint							
Mix, pour and cure concrete							

(Continued on next page)

Jobs (If "no", check and proceed to next item or job)	Was job done during last 5 years?		If "yes", check appropriate columns.				
	Yes	No	Job was done once	Job was done more than once	You did job yourself	Job was done by family members or hired hands	Job was done by outside person
BUILDINGS AND CONVENIENCES (Continued)							
Lay out foundations and construct forms							
Make some plumbing installation							
Lay roofing material							
Remodel home or other farm buildings							
Construct portable building (hog-house, etc.)							
Lay concrete blocks for farm buildings							
SOIL AND WATER MANAGEMENT							
Make a soil contour map							
Lay out farm terraces and contours							
Construct farm terraces and contours							
Repair existing tile system							
Install new tile system							
Construct grassed waterway							
RURAL ELECTRIFICATION							
Install a complete wiring circuit							
Replace electric motor brushes							
Clean interior of electric motor							
Determine wire sizes for various distances and loads							
Solder spliced wire							
Install an electric fence controller							
FARM SHOPWORK							
Replace handles in tools							
Sharpen plane iron							
Thread bolt and tap threads in nut or burr							
Solder sheetmetal or other light metal							
Lay out and cut a common rafter							
Arc weld parts of machinery							
Hardface plowshares							
Build up drawbar with arc welder							
Heat metal with carbon arc torch							
Cut metal with arc welder							
Weld with oxy-acetylene welder							

QUESTIONNAIRE

(Note: Answers will be confidential)

1. Name _____ 2. Present Address _____

3. Are you still farming? Yes ____ No ____

4. If your answer to question No. 3 is "no" please indicate your present occupation _____

5. If your answer to question No. 3 is "yes" please indicate total number of acres in your farm _____

6. If your answer to question No. 3 is "yes" please indicate your present status in farming by checking one of the following:

	Calendar year 1963
a. Working without definite wages	
b. Working with definite wages	
c. Working with or without wages plus a share of the profits of one or more livestock or crop enterprises	
d. Income-sharing agreement or partnership in entire farm business	
e. Livestock share lease	
f. Crop share lease	
g. Cash lease	
h. Part-owner operator (own some land and rent some land)	
i. Owner-operator (include farms owned and operated by partners)	

7. Were you a member of any of these organizations during the past year? (Check "yes" or "no".)

Organized activity	Member yes	Member no	If "yes" were you a committee chairman, officer or leader? (Specify)
Farm Bureau Young People	____	____	_____
4-H	____	____	_____
FFA	____	____	_____
Farm Bureau	____	____	_____
The Grange	____	____	_____
Farmer's Union	____	____	_____
National Farmers Org. (NFO)	____	____	_____
A farmer's cooperative	____	____	_____
Farm record association	____	____	_____
A livestock, poultry, breed or dairy herd imp. assoc.	____	____	_____
A crop improvement assoc.	____	____	_____
A. C. P. (Formerly P. M. A.)	____	____	_____

Organized activity	Member yes	Member no	If "yes" were you a committee chairman, officer or leader? (Specify)
Soil Conservation Service (SCS)	___	___	_____
Young farmer class	___	___	_____
Adult farmer class	___	___	_____
Church	___	___	_____
Sunday school	___	___	_____
Choir (church)	___	___	_____
Youth or young married organization (church)	___	___	_____
Men's organization (church)	___	___	_____
Other (specify)	___	___	_____